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MONTHLY WEATHER REVIEW

JUNE 1946

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Contour lines and isotherms based on radiosonde observations at 0300 G.C.T. and winds based on pilot balloon observations at 2200 G.C.T.

MONTHLY WEATHER REVIEW

Acting Editor, Robert N. Culnan

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JUNE 1946

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METEOROLOGICAL AND CLIMATOLOGICAL DATA FOR JUNE 1946

AEROLOGICAL OBSERVATIONS

[For description of change in Table 1 and charts, see REVIEW, January 1946, p. 6]

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meter, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1946*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Albany, N. Y. (1,005.6 mb.)				Albuquerque, N. Mex. (837.0 mb.)				Apalachicola, Fla. (1,018.2 mb.)				Atlanta, Ga. (984.8 mb.)				Big Spring, Tex. (926.6 mb.)				Bismarck, N. Dak. (954.7 mb.)				Boise, Idaho (913.4 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	93	15.9	81	30	1,620	26.7	21	30	5	25.0	81	30	300	22.5	76	30	774	26.1	50	30	505	18.0	66	29	868	21.0	36
1,000	30	140	(*)	----	30	14	(*)	----	30	164	24.4	76	30	166	(*)	----	30	93	(*)	----	30	102	(*)	----	29	74	(*)	----
950	30	581	15.4	71	30	485	(*)	----	30	612	21.7	70	30	617	22.3	64	30	552	(*)	----	30	545	(*)	----	29	530	(*)	----
900	30	1,034	13.1	70	30	970	(*)	----	30	1,080	18.5	70	30	1,083	19.3	66	30	1,030	24.4	51	30	1,010	16.9	56	29	996	21.3	30
850	30	1,512	10.0	71	30	1,484	(*)	----	30	1,568	15.4	66	30	1,572	15.7	69	30	1,528	20.8	55	30	1,495	13.6	57	29	1,488	17.5	31
800	30	2,014	7.1	67	30	2,017	24.2	20	30	2,080	12.7	58	30	2,085	12.8	62	30	2,049	17.4	56	30	2,003	10.7	57	29	2,001	13.3	35
750	30	2,550	4.4	65	30	2,576	19.6	22	30	2,621	9.8	52	30	2,629	9.6	54	30	2,600	13.9	56	30	2,546	7.3	54	29	2,541	8.7	39
700	30	3,102	1.6	60	30	3,164	14.3	25	30	3,189	6.8	52	30	3,194	6.0	55	30	3,177	10.7	43	30	3,103	3.9	55	29	3,105	4.2	44
650	30	3,699	−1.7	54	30	3,780	8.6	31	30	3,795	3.5	49	30	3,801	2.5	56	30	3,789	7.1	35	30	3,705	−0.1	53	29	3,705	−0.9	49
600	29	4,330	−5.2	50	30	4,438	2.6	39	30	4,440	0.0	50	30	4,440	−1.0	49	29	4,443	2.5	37	29	4,337	−4.5	51	29	4,339	−5.6	54
550	28	5,010	−9.3	----	30	5,127	−3.5	50	30	5,133	−3.8	47	30	5,132	−4.8	40	27	5,133	−2.6	----	29	5,021	−9.1	53	28	5,020	−10.3	53
500	28	5,737	−13.5	----	30	5,880	−9.8	60	30	5,878	−8.0	42	30	5,873	−9.1	----	27	5,890	−7.3	----	29	5,748	−13.9	57	28	5,746	−15.1	46
450	27	6,536	−19.0	----	30	6,691	−15.3	59	30	6,694	−12.9	----	30	6,692	−14.0	----	27	6,707	−12.7	----	29	6,553	−19.3	55	28	6,538	−20.5	52
400	26	7,405	−24.5	----	30	7,567	−21.2	46	29	7,578	−18.9	----	30	7,565	−20.2	----	27	7,591	−19.0	----	29	7,408	−25.2	----	28	7,397	−26.7	----
350	26	8,364	−31.6	----	30	8,538	−28.4	----	29	8,558	−26.1	----	30	8,540	−27.1	----	25	8,567	−26.2	----	29	8,363	−32.3	----	28	8,346	−33.9	----
300	26	9,435	−39.6	----	30	9,624	−36.6	----	29	9,654	−34.4	----	30	9,632	−35.4	----	25	9,663	−34.5	----	29	9,432	−40.6	----	28	9,407	−42.3	----
250	26	10,659	−48.0	----	30	10,861	−46.0	----	27	10,900	−44.5	----	30	10,876	−44.8	----	23	10,915	−43.7	----	25	10,642	−49.7	----	28	10,617	−50.9	----
200	25	12,112	−57.0	----	29	12,322	−55.1	----	27	12,355	−56.1	----	30	12,333	−55.7	----	20	12,376	−53.6	----	21	12,076	−56.4	----	26	12,040	−57.3	----
175	24	12,957	−59.9	----	25	13,160	−58.9	----	27	13,192	−61.8	----	30	13,171	−61.0	----	17	13,242	−57.5	----	20	12,927	−56.7	----	23	12,883	−56.1	----
150	24	13,918	−60.5	----	19	14,135	−63.3	----	24	14,131	−66.7	----	28	14,120	−64.6	----	13	14,201	−61.9	----	16	13,888	−55.1	----	18	13,866	−55.3	----
125	22	15,046	−61.6	----	8	15,231	−68.0	----	11	15,228	−70.7	----	17	15,236	−67.4	----	9	15,307	−65.1	----	13	15,044	−55.0	----	11	15,044	−57.1	----
100	14	16,404	−61.2	----																	6	16,406	−56.2	----	5	16,440	−57.6	----
80	8	17,773	−60.4	----																								

Standard pressure surface (mb.)	Brownsville, Tex. (1,013.9 mb.)				Buffalo, N. Y. (991.2 mb.)				Burrwood, La. (1,017.5 mb.)				Caribou, Maine (990.7 mb.)				Charleston, S. C. (1,018.3 mb.)				Ciudad Victoria, Mex. (974.4 mb.)				Clovis, N. Mex. (870.3 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	6	26.4	82	29	221	15.5	79	30	2	24.8	86	30	191	13.0	75	30	14	22.0	89	30	335	27.7	65	30	1,306	23.7	45
1,000	30	128	25.7	82	29	146	(*)	----	30	154	24.0	85	30	111	(*)	----	30	172	22.8	85	30	103	(*)	----	30	66	(*)	----
950	30	583	22.6	82	29	587	15.9	66	30	606	21.3	80	30	545	13.6	64	30	622	20.8	72	30	562	26.4	63	30	534	(*)	----
900	30	1,049	20.5	71	29	1,041	13.7	65	30	1,070	18.7	71	30	999	11.2	64	30	1,085	18.2	69	30	1,035	23.0	65	30	1,016	(*)	----
850	30	1,542	18.5	58	29	1,520	10.5	67	30	1,559	16.1	65	30	1,473	7.8	68	30	1,573	15.2	65	30	1,531	19.3	67	30	1,512	23.4	41
800	30	2,061	16.0	51	29	2,023	7.5	64	30	2,073	13.5	59	30	1,971	4.4	70	30	2,084	12.2	62	30	2,050	15.5	60	30	2,039	20.0	43
750	30	2,608	13.0	45	29	2,559	4.6	61	30	2,617	10.9	54	30	2,495	1.1	70	30	2,627	8.9	57	30	2,600	12.5	59	30	2,594	16.0	44
700	30	3,184	9.6	40	29	3,112	1.6	55	30	3,188	8.0	50	30	3,045	−2.0	65	30	3,192	5.8	50	30	3,172	9.2	53	30	3,173	12.0	42
650	30	3,793	6.0	39	29	3,710	−1.4	52	30	3,798	4.7	48	30	3,633	−4.9	56	29	3,794	2.5	45	30	3,789	5.9	46	30	3,788	7.1	43
600	30	4,446	2.0	42	29	4,339	−5.2	46	30	4,445	1.0	49	30	4,257	−7.9	47	29	4,436	−1.1	38	30	4,435	2.2	47	30	4,441	1.9	48
550	30	5,147	−2.5	41	29	5,022	−9.3	43	30	5,142	−2.8	44	30	4,928	−11.4	40	29	5,124	−5.1	37	30	5,134	−2.0	46	30	5,135	−3.6	48
500	30	5,893	−6.8	37	29	5,750	−13.7	43	30	5,890	−7.5	44	28	5,661	−15.8	45	28	5,867	−9.7	39	30	5,884	−6.6	44	29	5,882	−9.0	43
450	30	6,714	−11.8	----	29	6,551	−18.5	----	30	6,711	−12.4	----	28	6,452	−21.1	----	28	6,680	−15.0	42	30	6,709	−11.5	43	28	6,693	−14.6	----
400	30	7,600	−18.0	----	28	7,410	−24.5	----	30	7,594	−18.0	----	28	7,307	−27.4	----	28	7,555	−20.8	----	30	7,595	−17.1	----	28	7,572	−20.5	----
350	30	8,584	−24.9	----	28	8,367	−31.8	----	30	8,578	−25.0	----	28	8,254	−34.3	----	28	8,527	−28.2	----	29	8,582	−24.1	----	27	8,546	−27.7	----
300	30	9,686	32.9	----	28	9,439	−39.7	----	29	9,678	−33.4	----	28	9,314	−41.8	----	27	9,614	−36.4	----	29	9,688	−32.4	----	27	9,635	−36.0	----
250	29	10,944	−42.6	----	28	10,662	−48.4	----	27	10,932	−43.0	----	26	10,520	−49.1	----	27	10,852	−45.9	----	29	10,947	−41.9	----	27	10,876	−45.3	----
200	29	12,414	−53.8	----	28	12,104	−55.9	----	26	12,399	−53.9	----	24	11,950	−54.5	----	25	12,305	−56.2	----	29	12,420	−53.5	----	27	12,335	−54.2	----
175	29	13,260	−59.9	----	27	12,947	−59.1	----	25	13,244	−59.3	----	22	12,800	−55.1	----	24	13,139	−61.7	----	29	13,266	−59.9	----	26	13,181	−58.5	----
150	24	14,206	−66.1	----	24	13,897	−59.1	----	23	14,195	−63 9	----	20	13,778	−55.6	----	21	14,086	−65.5	----	29	14,214	−65.8	----	22	14,144	−62.8	----
125	20	15,299	−71.5	----	17	15,050	−59.6	----	9	15,273	−67.4	----	19	14,928	−56.2	----	11	15,161	−65.2	----	19	15,310	−71.0	----	15	15,277	−67.3	----
100	10	16,614	−74.8	----	14	16,440	−60.2	----					10	16,334	−56.4	----	5	16,519	−66.7	----	5	16,585	−73.3	----	5	16,625	−69.6	----

See footnotes at end of table.

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TABLE 1.— *Mean dynamic height (geopotential) in units of 0.98 dynamic meter, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1946*— Continued

Standard pressure surface (mb.)	Columbia, Mo. (987.6 mb.)				Dodge City, Kans. (924.1 mb.)				El Paso, Tex. (879.9 mb.)				Ely, Nev. (808.2 mb.)				Fort Worth, Tex. (991.4 mb.)				Glasgow, Mont. (938.8 mb.)				Grand Junction, Colo. (850.8 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	239	22.4	70	30	787	23.6	51	30	1,195	29.2	24	30	1,908	19.5	24	30	211	25.1	68	30	648	18.8	51	30	1,474	24.0	19
1,000	30	129	(*)	----	30	87	(*)	----	30	36	(*)	----	30	26	(*)	----	30	131	(*)	----	30	97	(*)	----	30	30	(*)	----
950	30	582	21.7	62	30	545	(*)	----	30	511	(*)	----	30	492	(*)	----	30	589	23.5	65	30	547	(*)	----	30	502	(*)	----
900	30	1,043	18.8	64	30	1,017	22.9	49	30	998	(*)	----	30	970	(*)	----	30	1,053	20.8	65	30	1,008	16.8	47	30	984	(*)	----
850	30	1,532	15.9	67	30	1,513	20.4	49	30	1,502	28.5	22	30	1,468	(*)	----	30	1,545	17.8	63	30	1,493	13.3	49	30	1,482	(*)	----
800	30	2,047	13.3	53	30	2,034	17.4	46	30	2,036	24.2	23	30	1,996	20.6	22	30	2,062	15.2	57	30	1,999	9.3	55	30	2,011	22.2	19
750	30	2,591	10.6	45	30	2,589	14.0	42	30	2,598	19.1	27	30	2,551	16.0	23	30	2,608	12.8	44	30	2,533	5.1	57	30	2,571	17.2	22
700	29	3,157	7.2	43	30	3,159	10.0	43	30	3,181	13.8	33	30	3,128	10.6	28	30	3,184	9.6	39	30	3,090	1.4	56	30	3,148	11.9	26
650	29	3,765	3.5	42	30	3,771	5.5	44	30	3,803	8.2	39	30	3,740	5.1	34	29	3,796	5.8	37	30	3,684	−2.7	58	30	3,761	6.3	31
600	29	4,408	−0.4	39	30	4,418	0.8	44	30	4,454	2.3	48	30	4,386	−0.7	41	29	4,444	1.7	37	30	4,314	−6.9	61	30	4,411	0.6	37
550	28	5,098	−4.7	33	29	5,113	−4.5	44	30	5,152	−3.3	51	30	5,073	−6.7	50	29	5,142	−2.7	39	30	4,988	−11.1	59	30	5,096	−5.2	43
500	28	5,840	−9.4	----	29	5,855	−9.5	39	30	5,898	−8.1	40	30	5,810	−12.0	46	29	5,890	−7.0	----	30	5,713	−15.9	56	30	5,842	−11.2	46
450	28	6,652	−14.6	----	29	6,671	−15.2	----	29	6,717	−13.9	----	30	6,615	−17.7	44	26	6,717	−12.2	----	30	6,503	−21.3	----	28	6,646	−17.3	----
400	28	7,529	−20.7	----	29	7,539	−21.5	----	29	7,592	−20.0	----	30	7,478	−23.9	----	26	7,601	−18.6	----	30	7,358	−27.1	----	28	7,509	−23.8	----
350	28	8,502	−27.8	----	29	8,508	−28.8	----	29	8,567	−27.3	----	30	8,439	−31.0	----	27	8,581	−25.9	----	30	8,306	−34.3	----	28	8,469	−31.4	----
300	28	9,592	−35.9	----	29	9,590	−37.3	----	29	9,658	−35.7	----	30	9,514	−38.9	----	23	9,682	−34.0	----	29	9,365	−42.6	----	28	9,541	−39.8	----
250	28	10,833	−45.1	----	29	10,824	−46.5	----	29	10,900	−45.1	----	30	10,740	−48.4	----	20	10,932	−43.5	----	29	10,569	−51.3	----	28	10,764	−48.2	----
200	27	12,294	−54.4	----	28	12,277	−55.3	----	27	12,360	−54.8	----	26	12,188	−56.6	----	20	12,399	−53.4	----	19	11,995	−55.8	----	26	12,222	−56.1	----
175	27	13,142	−58.0	----	26	13,117	−59.7	----	24	13,213	−59.8	----	25	13,030	−59.3	----	17	13,265	−58.0	----	10	12,829	−53.7	----	25	13,062	−59.3	----
150	22	14,110	−61.0	----	21	14,075	−62.2	----	20	14,160	−64.8	----	19	14,012	−60.0	----	15	14,223	−63.7	----	7	13,790	−54.2	----	23	14,020	−61.2	----
125	10	15,413	−63.1	----	16	15,185	−64.6	----	10	15,250	−68.8	----	17	15,154	−61.4	----	5	15,310	−68.8	----	7	14,963	−55.3	----	16	15,159	−63.7	----
100	----	----	----	----	8	16,546	−68.4	----	----	----	----	----	8	16,513	−61.5	----	----	----	----	----	----	----	----	----	----	----	----	----

Standard pressure surface (mb.)	Great Falls, Mont. (886.9 mb.)				Greensboro, N. C. (987.8 mb.)				Hatteras, N. C. (1,019.6 mb.)				Havana, Cuba [1] (---- mb.)				Honolulu, T. H. [2] (---- mb.)				Huntington, W. Va. (998.1 mb.)				International Falls, Minn. (974.2 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	1,128	16.0	54	29	273	20.8	77	30	3	21.6	86	----	----	----	----	----	----	----	----	30	172	18.1	93	30	343	15.5	69
1,000	30	90	(*)	----	29	167	(*)	----	30	172	21.0	80	----	----	----	----	----	----	----	----	30	155	(*)	----	30	119	(*)	----
950	30	540	(*)	----	29	612	21.1	65	30	619	19.5	70	----	----	----	----	----	----	----	----	30	604	19.9	70	30	555	15.5	62
900	30	1,006	(*)	----	29	1,079	17.8	66	30	1,080	17.4	64	----	----	----	----	----	----	----	----	30	1,063	17.1	71	30	1,013	12.7	65
850	30	1,488	14.0	50	29	1,566	14.4	68	30	1,567	15.0	60	----	----	----	----	----	----	----	----	30	1,549	13.9	69	30	1,491	9.6	66
800	30	1,996	10.0	53	29	2,075	11.1	67	30	2,078	12.4	54	----	----	----	----	----	----	----	----	30	2,058	11.1	63	30	1,991	6.5	64
750	30	2,532	6.1	56	29	2,612	7.8	65	30	2,620	9.4	53	----	----	----	----	----	----	----	----	30	2,600	8.0	58	30	2,524	3.3	61
700	30	3,090	1.6	62	29	3,177	4.4	60	30	3,186	5.9	56	----	----	----	----	----	----	----	----	30	3,160	4.8	55	30	3,075	0.4	53
650	30	3,683	−2.9	69	29	3,779	0.9	53	30	3,790	3.0	45	----	----	----	----	----	----	----	----	29	3,769	1.8	46	30	3,667	−3.2	51
600	29	4,313	−7.2	69	28	4,417	−2.8	47	30	4,434	−1.0	46	----	----	----	----	----	----	----	----	28	4,404	−2.1	48	30	4,295	−6.9	49
550	29	4,985	−11.9	68	28	5,099	−6.7	----	30	5,122	−5.4	44	----	----	----	----	----	----	----	----	28	5,092	−6.0	----	30	4,969	−10.8	53
500	29	5,709	−16.7	64	28	5,841	−11.1	----	30	5,865	−9.6	43	----	----	----	----	----	----	----	----	28	5,831	−10.5	----	30	5,696	−15.5	52
450	29	6,500	−21.9	----	27	6,645	−16.4	----	30	6,682	−14.5	37	----	----	----	----	----	----	----	----	28	6,644	−15.6	----	30	6,488	−20.9	53
400	29	7,349	−28.2	----	27	7,516	−22.4	----	30	7,555	−20.3	----	----	----	----	----	----	----	----	----	27	7,516	−21.5	----	30	7,343	−27.1	----
350	29	8,291	−35.4	----	27	8,480	−29.2	----	28	8,527	−27.5	----	----	----	----	----	----	----	----	----	27	8,486	−28.5	----	30	8,292	−33.8	----
300	28	9,348	−43.4	----	27	9,563	−37.2	----	28	9,618	−35.4	----	----	----	----	----	----	----	----	----	27	9,572	−36.7	----	30	9,355	−41.5	----
250	27	10,551	−52.4	----	27	10,798	−46.4	----	28	10,862	−44.8	----	----	----	----	----	----	----	----	----	27	10,810	−45.7	----	30	10,569	−49.7	----
200	25	11,971	−56.1	----	27	12,249	−55.9	----	27	12,316	−55.1	----	----	----	----	----	----	----	----	----	26	12,268	−54.9	----	29	12,010	−55.8	----
175	22	12,822	−55.3	----	26	13,091	−60.3	----	25	13,160	−59.8	----	----	----	----	----	----	----	----	----	21	13,103	−58.7	----	27	12,853	−55.6	----
150	19	13,805	−54.6	----	22	14,033	−63.1	----	18	14,102	−61.4	----	----	----	----	----	----	----	----	----	17	14,040	−61.0	----	25	13,826	−55.2	----
125	12	14,963	−55.0	----	16	15,131	−65.4	----	10	15,247	−63.2	----	----	----	----	----	----	----	----	----	8	15,154	−61.6	----	22	14,988	−55.9	----
100	9	16,383	−56.1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	16	16,366	−56.2	----
80	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	11	17,776	−56.3	----

Standard pressure surface (mb.)	Joliet, Ill. (995.3 mb.)				Lake Charles, La. (1,016.7 mb.)				Lander, Wyo. (829.3 mb.)				Las Vegas, Nev. (942.2 mb.)				Little Rock, Ark. (1,008.0 mb.)				Mazatlan, Mexico (1,003.4 mb.)				Medford, Oreg. (968.6 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	178	18.1	77	30	5	24.3	87	29	1,696	17.0	43	30	574	33.2	9	30	79	24.1	74	27	79	27.1	75	29	401	19.6	46
1,000	30	138	(*)	----	30	151	24.1	82	29	59	(*)	----	30	32	(*)	----	30	149	24.6	71	27	109	26.7	73	29	124	(*)	----
950	30	579	18.8	66	30	605	21.4	79	29	520	(*)	----	30	501	(*)	----	30	601	22.4	67	27	564	24.6	56	29	570	18.1	48
900	30	1,042	16.9	66	30	1,067	18.6	73	29	991	(*)	----	30	984	30.6	----	30	1,067	18.9	70	27	1,033	22.9	55	29	1,026	14.2	55
850	30	1,528	13.9	67	30	1,557	16.2	68	29	1,482	(*)	----	30	1,489	26.0	----	30	1,557	16.2	62	27	1,530	20.8	59	29	1,505	10.2	64
800	30	2,038	11.0	63	30	2,071	13.4	67	29	2,003	17.7	33	30	2,016	21.1	----	30	2,071	14.0	52	27	2,051	17.3	60	29	2,006	6.0	73
750	30	2,576	8.1	54	30	2,619	10.6	61	29	2,551	13.2	36	30	2,569	15.8	----	30	2,616	11.0	53	27	2,605	14.4	57	29	2,534	2.4	75
700	30	3,140	4.7	53	30	3,185	7.8	54	29	3,125	8.3	41	30	3,146	10.7	19	30	3,186	7.7	50	27	3,179	11.1	55	29	3,085	−0.8	59
650	30	3,741	1.3	46	30	3,798	4.6	49	29	3,732	3.3	47	30	3,757	5.5	22	30	3,795	4.2	43	22	3,801	7.1	55	29	3,674	−4.1	50
600	30	4,381	−4.0	40	30	4,443	0.9	45	29	4,375	−1.8	50	30	4,405	0.7	----	30	4,446	0.2	42	21	4,450	2.6	60	29	4,300	−8.0	46
550	30	5,064	−6.5	39	30	5,140	−3.0	42	29	5,058	−7.2	52	30	5,095	−3.9	----	30	5,133	−3.8	38	21	5,150	−2.5	64	29	4,974	−12.1	45
500	30	5,805	−11.3	----	30	5,886	−7.5	43	29	5,796	−12.7	51	30	5,842	−9.0	----	28	5,876	−8.4	36	21	5,900	−7.3	61	29	5,693	−16.8	46
450	30	6,610	−16.6	----	30	6,711	−12.7	43	29	6,595	−18.7	49	30	6,651	−15.1	----	28	6,694	−13.2	----	21	6,721	−12.4	54	29	6,480	−22.0	----
400	30	7,482	−22.6	----	30	7,589	−18.5	----	29	7,459	−25.2	----	29	7,527	−22.0	----	28	7,573	−19.2	----	21	7,606	−17.7	----	29	7,334	−27.7	----
350	30	8,448	−29.6	----	29	8,571	−25.9	----	29	8,414	−32.6	----	29	8,495	−29.5	----	28	8,553	−26.2	----	18	8,590	−25.3	----	29	8,280	−34.7	----
300	27	9,540	−37.5	----	29	9,668	−34.2	----	28	9,483	−41.0	----	29	9,575	−38.2	----	28	9,649	−34.3	----	17	9,684	−33.5	----	29	9,336	−42.9	----
250	27	10,773	−47.0	----	29	10,919	−44.0	----	28	10,698	−50.0	----	29	10,805	−47.3	----	28	10,899	−43.9	----	17	10,940	−42.8	----	28	10,543	−50.6	----
200	27	12,223	−55.1	----	29	12,380	−55.1	----	28	12,127	−57.7	----	28	12,252	−56.1	----	28	12,362	−54.5	----	16	12,407	−54.1	----	28	11,975	−56.3	----
175	25	13,058	−58.3	----	29	13,222	−60.5	----	26	12,959	−58.7	----	26	13,092	−59.8	----	28	13,206	−59.4	----	14	13,256	−60.0	----	25	12,818	−56.2	----
150	22	14,014	−60.7	----	28	14,173	−65.5	----	24	13,932	−58.8	----	24	14,050	−62.3	----	24	14,164	−63.1	----	8	14,201	−65.9	----	23	13,804	−55.7	----
125	16	15,116	−61.2	----	21	15,271	−69.9	----	21	15,084	−60.3	----	16	15,160	−65.0	----	17	15,287	−66.2	----	----	----	----	----	15	14,963	−56.7	----
100	11	16,488	−62.0	----	6	16,580	−71.5	----	10	16,449	−60.7	----	5	16,514	−67.4	----	10	16,631	−67.6	----	----	----	----	----	6	16,373	−56.6	----
80	----	----	----	----	----	----	----	----	5	17,849	−61.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meter, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1946*—Continued

Standard pressure surface (mb.)	Merida, Mexico (1,011.3 mb.)				Miami, Fla. (1,018.8 mb.)				Nantucket, Mass. (1,016.0 mb.)				Nashville, Tenn. (997.3 mb.)				North Platte, Nebr. (916.8 mb.)				Oakland, Calif. (1,016.6 mb.)				Ogden, Utah (862.3 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	29	27	26.2	81	30	4	25.8	82	29	14	13.4	91	30	180	23.3	71	30	849	20.1	66	30	2	17.2	68	30	1,355	21.7	35
1,000	29	126	25.3	80	30	169	24.9	82	29	148	14.8	79	30	156	(*)	....	30	88	(*)	....	30	142	16.0	69	30	44	(*)	....
950	29	577	23.4	76	30	620	21.7	83	29	585	15.6	66	30	604	22.4	66	30	541	(*)	....	30	585	14.8	61	30	508	(*)	....
900	29	1,049	20.9	73	30	1,087	18.9	79	29	1,042	14.0	61	30	1,073	19.1	69	30	1,008	22.1	53	30	1,034	15.2	39	30	983	(*)	....
850	29	1,542	18.0	72	30	1,576	16.0	75	29	1,523	11.5	59	30	1,562	15.4	73	30	1,502	19.4	48	30	1,517	14.2	26	30	1,480	22.2	28
800	29	2,060	15.1	69	30	2,090	12.9	73	29	2,028	8.9	54	30	2,074	12.4	67	30	2,020	15.9	50	30	2,026	12.1	23	30	2,002	18.1	27
750	29	2,606	11.8	64	30	2,633	9.9	68	29	2,567	6.1	52	30	2,615	9.7	57	30	2,572	12.5	48	30	2,572	9.3	22	30	2,553	13.8	30
700	29	3,179	8.3	66	30	3,201	6.8	63	29	3,122	3.1	50	30	3,184	6.6	51	30	3,141	8.7	48	30	3,131	6.0	....	30	3,126	9.0	32
650	29	3,791	4.8	65	30	3,809	3.4	57	29	3,723	−0.4	50	29	3,790	3.0	47	30	3,753	4.3	48	30	3,735	2.4	....	30	3,735	3.9	36
600	27	4,439	1.1	65	29	4,453	−0.3	60	29	4,358	−3.6	47	29	4,432	−1.0	43	30	4,395	−0.6	52	30	4,375	−1.6	....	30	4,379	−1.4	39
550	25	5,135	−3.1	65	29	5,146	−3.9	55	29	5,041	−7.8	52	29	5,120	−5.0	39	30	5,086	−5.7	52	30	5,060	−6.0	....	30	5,063	−6.8	42
500	25	5,885	−7.4	63	29	5,891	−8.5	53	29	5,774	−12.3	53	29	5,863	−9.4	....	30	5,825	−11.0	49	30	5,802	−10.7	....	30	5,802	−12.7	50
450	25	6,706	−11.9	59	28	6,709	−13.2	50	29	6,578	−18.0	49	29	6,672	−14.5	....	30	6,633	−16.7	47	29	6,617	−16.0	....	30	6,601	−18.7	51
400	25	7,594	−17.5	58	28	7,591	−18.9	54	29	7,443	−23.9	....	29	7,552	−20.6	....	30	7,500	−22.9	....	29	7,483	−22.2	....	30	7,465	−25.0	50
350	25	8,579	−25.1	....	28	8,571	−26.1	....	27	8,408	−30.8	....	28	8,524	−27.7	....	30	8,465	−29.9	....	29	8,450	−29.5	....	29	8,424	−32.1	....
300	24	9,678	−33.8	....	28	9,666	−34.8	....	26	9,492	−38.1	....	28	9,615	−35.5	....	29	9,542	−38.2	....	29	9,531	−37.8	....	29	9,494	−40.2	....
250	22	10,928	−44.0	....	28	10,911	−45.2	....	26	10,679	−47.2	....	28	10,860	−44.5	....	28	10,771	−47.3	....	28	10,763	−46.5	....	28	10,717	−48.8	....
200	20	12,386	−55.6	....	28	12,361	−57.4	....	26	12,161	−56.7	....	27	12,323	−54.3	....	27	12,213	−56.1	....	28	12,220	−54.9	....	27	12,151	−57.0	....
175	17	13,223	−61.8	....	28	13,193	−63.2	....	24	13,004	−59.8	....	27	13,169	−58.7	....	27	13,056	−58.5	....	23	13,073	−57.5	....	24	12,993	−58.8	....
150					17	14,143	−68.5	....	20	13,967	−61.2	....	23	14,133	−61.8	....	22	14,025	−60.1	....	10	14,094	−58.4	....	19	13,961	−59.2	....
125					5	15,266	−72.6	....	14	15,104	−62.2	....	14	15,245	−64.4	....	14	15,157	−62.0	....	6	15,215	−57.8	....	11	15,113	−59.5	....
100									9	16,512	−61.6	....					8	16,568	−62.4	....					7	16,488	−60.6	....

Standard pressure surface (mb.)	Oklahoma City, Okla. (970.0 mb.)				Omaha, Nebr. (977.6 mb.)				Phoenix, Ariz. (968.2 mb.)				Pittsburgh, Pa. (973.5 mb.)				Portland, Maine (1,013.3 mb.)				Rapid City, S. Dak. (902.9 mb.)				St. Paul, Minn. (987.8 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	29	391	23.4	71	30	308	22.9	64	30	339	32.4	22	30	382	19.3	72	30	20	14.1	82	30	981	17.3	74	30	225	18.8	72
1,000	29	121	(*)	....	30	108	(*)	....	30	46	(*)	....	30	149	(*)	....	30	132	16.0	75	30	94	(*)	....	30	117	(*)	....
950	29	572	22.9	69	30	558	21.8	62	30	514	35.7	15	30	598	18.9	68	30	572	16.2	60	30	541	(*)	....	30	563	17.1	68
900	29	1,042	20.2	69	30	1,024	19.2	64	30	998	31.5	16	30	1,056	16.6	66	30	1,028	13.4	60	30	1,008	(*)	....	30	1,019	14.5	68
850	29	1,534	17.9	66	30	1,514	16.1	65	30	1,506	26.8	18	30	1,541	13.3	69	30	1,507	10.1	66	30	1,497	16.1	61	30	1,502	11.9	68
800	29	2,052	15.5	60	30	2,028	13.7	60	30	2,035	22.0	21	30	2,048	10.2	65	30	2,009	7.0	66	30	2,010	13.0	61	30	2,006	9.5	63
750	29	2,600	12.9	47	30	2,572	10.8	51	30	2,591	17.0	25	30	2,588	7.2	62	30	2,543	4.3	61	30	2,554	9.4	60	30	2,545	6.4	61
700	29	3,174	9.5	45	30	3,141	7.2	50	30	3,173	12.0	28	30	3,148	4.1	55	30	3,096	1.5	55	30	3,119	6.1	54	30	3,103	3.3	58
650	29	3,786	5.3	42	30	3,749	3.3	49	30	3,789	7.4	29	29	3,750	0.7	55	29	3,697	−1.5	52	30	3,724	2.0	54	29	3,701	−0.2	55
600	28	4,435	1.1	36	29	4,393	−0.9	46	30	4,440	2.6	28	29	4,387	−3.1	55	29	4,327	−5.1	51	29	4,361	−3.1	57	29	4,337	−4.2	54
550	28	5,128	−3.7	32	29	5,082	−5.6	40	30	5,138	−2.3	....	28	5,077	−6.9	51	29	5,009	−9.3	51	28	5,045	−7.9	55	29	5,019	−8.7	51
500	28	5,875	−8.6	....	29	5,822	−10.7	38	29	5,885	−7.5	....	27	5,811	−11.2	53	29	5,738	−13.5	48	27	5,776	−13.3	52	29	5,751	−13.6	54
450	28	6,693	−14.2	....	28	6,637	−16.3	37	29	6,703	−13.5	....	27	6,624	−16.4	52	29	6,536	−18.6	46	27	6,578	−18.8	51	29	6,554	−19.0	46
400	28	7,568	−20.5	....	28	7,505	−22.8	....	29	7,581	−20.5	....	27	7,489	−22.6	....	29	7,400	−24.7	....	27	7,439	−24.7	....	27	7,413	−24.9	....
350	26	8,540	−27.9	....	26	8,476	−29.7	....	29	8,555	−28.1	....	27	8,455	−29.6	....	29	8,357	−32.0	....	27	8,397	−31.8	....	29	8,370	−31.7	....
300	26	9,630	−35.8	....	25	9,553	−37.8	....	29	9,642	−36.8	....	27	9,536	−37.3	....	29	9,427	−40.2	....	26	9,464	−40.1	....	29	9,443	−39.7	....
250	26	10,872	−44.9	....	25	10,787	−46.9	....	29	10,878	−46.1	....	26	10,766	−46.1	....	29	10,647	−48.5	....	25	10,684	−49.0	....	28	10,667	−47.9	....
200	25	12,333	−54.3	....	25	12,234	−56.2	....	29	12,331	−55.5	....	24	12,213	−54.9	....	29	12,086	−56.2	....	21	12,134	−56.9	....	28	12,112	−55.4	....
175	25	13,179	−58.6	....	23	13,072	−59.4	....	28	13,180	−59.8	....	23	13,063	−58.2	....	24	12,921	−58.3	....	18	12,982	−58.5	....	23	12,952	−57.1	....
150	23	14,131	−62.3	....	20	14,042	−61.3	....	27	14,134	−64.1	....	19	14,034	−59.7	....	20	13,879	−58.6	....	15	13,947	−57.7	....	21	13,920	−57.8	....
125	15	15,253	−66.4	....	16	15,160	−62.9	....	19	15,245	−67.7	....	14	15,148	−59.3	....	14	15,016	−59.4	....	9	15,046	−58.6	....	17	15,043	−57.8	....
100	8	16,576	−68.1	....	9	16,527	−64.1	....	5	16,558	−71.6	....	8	16,520	−59.9	....	6	16,429	−60.3	....	5	16,436	−61.5	....	12	16,439	−58.7	....
80	5	17,934	−66.2	....									5	17,944	−60.5	....									6	17,834	−58.0	....

Standard pressure surface (mb.)	San Antonio, Tex. (987.4 mb.)				San Juan, P. R. (1,017.4 mb.)				Santa Maria, Calif. (1,007.0 mb.)				Sault Ste. Marie, Mich. (989.6 mb.)				Spokane, Wash. (944.9 mb.)				Swan Island, W. I.[1] (..... mb.)				Tacubaya, Mexico (775.1 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	30	240	25.2	78	26	15	25.9	83	30	71	14.9	75	30	221	11.8	82	29	598	19.1	47	....	....	....	....	30	2,306	15.9	72
1,000	30	128	(*)	....	26	167	24.8	84	30	130	13.8	76	30	131	(*)	....	29	108	(*)	....	....	....	....	....	30	76	(*)	....
950	30	580	23.4	78	26	620	21.4	87	30	575	17.0	55	30	573	14.2	66	29	552	(*)	....	....	....	....	....	30	538	(*)	....
900	30	1,051	20.4	80	26	1,085	18.4	84	30	1,028	18.9	35	30	1,020	12.2	64	29	1,014	15.8	46	....	....	....	....	30	1,016	(*)	....
850	30	1,543	17.7	77	26	1,574	15.4	79	30	1,517	17.0	30	30	1,497	9.6	63	29	1,496	11.5	52	....	....	....	....	30	1,510	(*)	....
800	30	2,061	15.5	61	26	2,087	13.3	63	30	2,030	13.6	31	30	1,998	7.0	58	29	1,999	7.1	60	....	....	....	....	30	2,039	(*)	....
750	30	2,609	12.9	47	26	2,635	10.4	56	30	2,575	10.8	24	30	2,533	4.1	56	29	2,528	2.5	68	....	....	....	....	30	2,588	13.8	73
700	30	3,182	9.7	45	26	3,199	7.0	56	30	3,141	7.5	....	30	3,085	0.9	58	29	3,080	−1.6	68	....	....	....	....	30	3,164	9.4	77
650	29	3,799	6.3	41	26	3,810	3.7	49	30	3,747	3.9	....	30	3,683	−2.6	59	29	3,671	−5.4	66	....	....	....	....	30	3,775	4.9	83
600	29	4,448	2.4	39	26	4,452	0.2	47	30	4,393	0.2	....	29	4,307	−6.4	50	29	4,290	−9.2	64	....	....	....	....	30	4,425	0.9	84
550	28	5,145	−1.5	33	25	5,145	−3.7	....	30	5,082	−4.0	....	29	4,989	−9.8	43	29	4,959	−13.4	53	....	....	....	....	28	5,125	−2.8	79
500	28	5,899	−6.1	....	24	5,891	−8.1	....	30	5,829	−9.2	....	29	5,713	−14.3	43	29	5,677	−18.2	47	....	....	....	....	27	5,874	−7.0	74
450	28	6,720	−11.3	....	23	6,710	−12.9	....	30	6,640	−15.4	....	29	6,511	−19.6	44	29	6,463	−23.8	....	....	....	....	....	27	6,699	−11.9	70
400	28	7,608	−17.5	....	23	7,590	−19.0	....	29	7,514	−22.1	....	29	7,369	−25.9	....	28	7,308	−29.7	....	....	....	....	....	27	7,584	−17.3	68
350	27	8,592	−24.6	....	23	8,571	−25.9	....	28	8,481	−29.6	....	29	8,322	−33.1	....	28	8,247	−36.5	....	....	....	....	....	27	8,570	−24.1	....
300	26	9,696	−32.7	....	22	9,667	−34.2	....	28	9,562	−37.8	....	29	9,389	−40.6	....	26	9,301	−44.0	....	....	....	....	....	27	9,676	−32.6	....
250	26	10,954	−42.0	....	21	10,917	−44.2	....	27	10,795	−46.6	....	29	10,609	−48.7	....	25	10,509	−51.0	....	....	....	....	....	24	10,932	−43.0	....
200	24	12,432	−52.3	....	17	12,378	−55.6	....	27	12,246	−55.1	....	28	12,060	−55.2	....	22	11,940	−54.4	....	....	....	....	....	22	12,394	−55.4	....
175	21	13,278	−57.4	....	15	13,224	−61.1	....	23	13,101	−58.1	....	27	12,910	−56.4	....	19	12,798	−53.2	....	....	....	....	....	6	13,223	−62.1	....
150	16	14,238	−62.7	....	8	14,184	−66.4	....	20	14,064	−61.4	....	24	13,892	−57.5	....	16	13,783	−52.4	....	....	....	....	....	....	....	....	....
125	9	15,345	−67.1	....	....	....	....	....	12	15,156	−63.7	....	21	15,036	−57.5	....	16	14,957	−53.6	....	....	....	....	....	....	....	....	....
100	....	....	....	....	....	....	....	....	5	16,492	−65.9	....	14	16,442	−58.7	....	9	16,400	−54.7	....	....	....	....	....	....	....	....	....
80	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	17,844	−56.7	....	....	....	....	....	....	....	....	....

See footnotes at end of table.

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meter, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during June 1946*—Continued

Standard pressure surface (mb.)	Tampa, Fla. (1,019.3 mb.)				Tatoosh Island, Wash. (1,014.1 mb.)				Toledo, Ohio (994.4 mb.)				Washington, D. C. (1,015.5 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity	Number of observations	Dynamic height	Temperature	Relative humidity
Surface	28	9	23.7	86	30	31	12.4	87	30	191	17.9	77	30	25	21.3	73
1,000	28	168	23.5	83	30	148	11.5	85	30	142	(*)	----	30	158	21.2	68
950	28	617	21.4	79	30	579	9.5	80	30	583	17.7	67	30	604	19.0	64
900	28	1,084	18.6	80	30	1,023	7.2	79	30	1,043	15.5	68	30	1,065	16.2	67
850	28	1,573	15.4	81	30	1,491	4.3	82	30	1,526	12.6	68	30	1,550	13.5	65
800	28	2,085	12.4	78	30	1,983	1.5	80	30	2,034	10.4	64	30	2,058	10.8	55
750	28	2,627	9.8	66	30	2,504	−1.2	75	30	2,576	7.4	62	30	2,595	7.8	53
700	28	3,196	6.6	64	30	3,048	−4.3	72	29	3,133	3.7	57	30	3,160	4.2	52
650	28	3,804	3.2	61	30	3,632	−7.8	69	27	3,740	0.0	57	30	3,760	0.5	52
600	28	4,446	−0.2	59	30	4,246	−11.4	61	27	4,375	−3.5	48	30	4,397	−3.2	54
550	27	5,140	−4.0	60	30	4,909	−15.7	60	27	5,058	−7.4	44	30	5,081	−7.2	47
500	27	5,885	−8.1	59	30	5,620	−20.3	59	27	5,795	−11.8	44	30	5,818	−11.6	45
450	27	6,704	−13.0	57	30	6,398	−25.5	----	27	6,603	−16.8	----	29	6,626	−16.8	45
400	27	7,586	−18.7	59	30	7,236	−31.6	----	27	7,474	−23.0	----	29	7,493	−22.8	----
350	27	8,567	−25.9	----	29	8,164	−38.4	----	27	8,434	−30.2	----	29	8,459	−29.7	----
300	27	9,663	−34.5	----	28	9,214	−44.9	----	27	9,513	−38.4	----	29	9,540	−37.6	----
250	27	10,909	−44.9	----	28	10,419	−49.2	----	26	10,744	−47.3	----	29	10,773	−46.7	----
200	27	12,362	−56.6	----	27	11,884	−49.6	----	25	12,184	−55.9	----	27	12,213	−55.8	----
175	27	13,106	−62.4	----	26	12,761	−49.4	----	24	13,045	−59.2	----	25	13,054	−60.0	----
150	20	14,133	−67.4	----	25	13,772	−49.4	----	20	14,012	−61.6	----	22	14,012	−63.1	----
125	9	15,216	−70.5	----	23	14,962	−50.4	----	16	15,153	−63.4	----	17	15,150	−63.9	----
100	----	----	----	----	17	16,423	−51.0	----	10	16,538	−62.9	----	13	16,533	−65.6	----
80	----	----	----	----	7	17,853	−50.7	----	5	17,941	−62.2	----	----	----	----	----

[1] Data not yet received.
[2] Insufficient 0400 observations during June.
*Temperature and relative humidity data for this level are not available or are available only for certain days. See note entitled "Change in Summarization of Radiosonde Data," p. 6, in the January 1946 issue of the MONTHLY WEATHER REVIEW.

NOTE.—All observations scheduled between 0300 and 0500, G. C.T., except at Mazatlan and Merida, where they are taken near 0200, G. C. T.

"Number of observations" refers to those of dynamic height only. (In a few cases temperature or humidity data may be missing for one or more standard pressure surfaces of some observations.) Relative humidity data are not published for standard pressure surfaces having a corresponding mean temperature below −20° C.

All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the values occurring below the operating range of the humidity element. For explanation of the adjustment see article entitled "Curve Method for Obtaining Monthly Means of Relative Humidity," p. 241, MONTHLY WEATHER REVIEW, December 1944.

None of the means included in these tables are based on less than 15 observations at the surface or 5 observations at a standard pressure level.

LATE REPORT FOR SWAN ISLAND, WEST INDIES

TABLE 1.—*Mean dynamic height (geopotential) in units of 0.98 dynamic meter, temperature in degrees centigrade, and relative humidity in percent, for standard pressures, as obtained by radiosondes during May 1946*

STATIONS AND MEAN SURFACE PRESSURES

Standard pressure surface (mb.)	Swan Island, W. I. (1,011.6 mb.)				Standard pressure surface (mb.)	Swan Island, W. I. (1,011.6 mb.)			
	Number of observations	Dynamic height	Temperature	Relative humidity		Number of observations	Dynamic height	Temperature	Relative humidity
Surface	29	10	26.8	81	500	29	5,861	−7.0	34
1,000	29	113	26.0	80	450	29	6,688	−12.2	----
950	29	571	22.4	81	400	29	7,569	−18.1	----
900	29	1,032	19.5	78	350	29	8,552	−25.5	----
850	29	1,523	16.9	73	300	29	9,652	−33.9	----
800	29	2,039	14.5	61	250	29	10,904	−43.7	----
750	29	2,588	11.8	51	200	28	12,363	−55.6	----
700	29	3,157	8.5	45	175	27	13,201	−62.0	----
650	29	3,773	5.1	42	150	25	14,139	−68.1	----
600	29	4,415	1.4	40	125	10	15,239	−72.4	----
550	29	5,112	−2.6	37					

TABLE 2.— *Free-air resultant winds based on pilot balloon observations made near 5 p. m., E. S. T. (2200 G. C. T.) during June 1946. Directions given in degrees from north (N=360°, E=90°, S=180°, W=270°). Velocities in meters per second*

Altitude (meters) m. s. l.	Abilene, Tex. (534 m.)			Albuquerque, N.Mex. (1,630 m.)			Atlanta, Ga. (299 m.)			Billings, Mont. (1,095 m.)			Bismarck, N. Dak. (512 m.)			Boise, Idaho (868 m.)			Brownsville, Tex. (7 m.)			Buffalo, N. Y. (220 m.)			Burlington, Vt. (100 m.)			Charleston, S. C. (16 m.)			Cincinnati, Ohio (150 m.)			Denver, Colo. (1,627 m.)			El Paso, Tex. (1,198 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	29	151	5.6	30	229	3.2	27	281	0.9	30	61	2.5	30	195	0.2	30	311	3.3	30	129	6.0	30	239	4.2	19	309	2.1	30	162	1.7	30	240	1.8	29	331	1.8	30	198	1.7
500							27	259	0.6										30	134	7.8	30	249	5.8	19	283	3.6	30	185	4.5	30	236	3.3						
1,000	29	159	7.0				27	246	0.9				30	172	1.0	30	311	3.6	29	147	6.3	27	252	5.7	19	279	4.6	28	198	2.9	30	241	4.5						
1,500	29	167	7.3				26	235	1.6	30	64	2.1	29	199	1.6	30	296	3.1	25	158	4.6	27	259	7.2	18	281	6.5	24	213	2.0	27	251	5.4				30	198	2.8
2,000	29	172	6.0	30	229	4.0	25	227	1.1	29	128	1.3	27	241	2.7	30	262	2.9	21	152	3.9	26	271	8.2	16	280	8.1	22	272	1.5	25	259	7.7	29	327	1.3	30	200	2.4
2,500	28	177	4.8	30	222	3.8	25	269	1.4	27	201	2.4	24	246	3.9	29	241	4.2	17	123	4.8	22	282	10.2	12	300	10.1	21	288	1.8	21	274	7.4	28	307	0.4	30	191	1.5
3,000	26	204	3.1	30	234	4.2	25	279	1.7	26	230	4.8	21	260	6.7	29	227	5.7	15	97	3.2	18	289	9.4	10	299	11.4	21	306	1.8	15	290	8.1	28	233	1.6	30	219	1.2
4,000	24	298	0.8	30	250	5.5	20	307	2.6	22	244	10.5	18	275	11.1	28	230	8.5	11	124	2.5	16	300	10.8				19	280	3.1	11	306	8.6	27	238	4.6	28	273	1.6
5,000	21	331	2.7	29	247	8.8	12	311	4.7	22	248	14.0	15	272	13.8	26	244	12.7	10	121	0.9	10	307	7.7				19	288	3.8				26	245	7.0	26	231	2.0
6,000	18	337	3.5	27	249	8.0	10	304	6.7	19	257	18.4	12	269	16.9	20	241	14.9										18	284	4.8				21	256	11.2	22	271	2.3
8,000	16	320	3.9	25	267	10.5	10	302	8.1	12	256	21.2				16	244	20.6										14	286	4.4				14	261	15.4	16	280	5.0
10,000	13	322	4.7	23	266	11.9										11	266	23.1										10	298	6.0				11	271	19.1	10	302	6.6
12,000				19	270	15.1																																	

Altitude (meters) m. s. l.	Ely, Nev. (1,910 m.)			Grand Junction, Colo. (1,413 m.)			Greensboro, N. C. (271 m.)			Havre, Mont. (767 m.)			Jacksonville, Fla. (16 m.)			Joliet, Ill. (178 m.)			Las Vegas, Nev. (573 m.)			Little Rock, Ark. (88 m.)			Medford, Oreg. (416 m.)			Miami, Fla. (12 m.)			Mobile, Ala. (66 m.)			Nashville, Tenn. (194 m.)			New York, N. Y. (15 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	209	5.3	30	259	4.4	30	213	1.4	30	247	1.5	29	100	4.2	28	226	3.8	30	191	2.8	30	190	1.4	30	305	3.6	30	118	4.1	29	163	2.3	30	224	2.3	30	228	2.1
500							30	224	2.1				29	113	4.8	28	224	5.0				30	196	2.6	30	306	3.8	30	118	5.8	29	180	3.4	30	221	3.0	30	258	3.5
1,000							30	253	2.2	30	243	2.1	28	119	3.1	27	233	6.6	30	198	5.0	30	196	3.5	30	295	3.0	30	124	5.1	25	161	2.6	29	219	2.8	26	272	5.3
1,500				30	259	4.5	29	272	2.8	30	250	2.6	26	165	0.9	27	248	7.5	30	200	5.8	30	200	4.0	30	268	2.7	28	123	4.3	22	123	1.6	29	228	2.4	24	286	6.2
2,000	30	210	5.2	30	262	4.4	28	276	4.3	27	230	3.2	26	229	0.7	25	263	9.1	30	204	6.3	27	209	3.8	30	226	4.0	27	130	3.5	20	112	1.3	25	243	3.3	23	296	7.6
2,500	30	219	6.2	30	255	4.3	28	291	5.2	24	251	5.8	24	264	1.3	22	275	9.4	30	200	7.0	27	220	3.3	27	210	5.1	24	131	3.0	13	149	1.5	25	256	3.5	19	289	8.2
3,000	30	213	7.5	29	247	4.3	26	297	6.0	21	257	6.5	24	259	1.4	16	287	8.4	30	206	7.2	26	227	2.9	25	207	7.0	23	139	2.5	11	170	1.9	25	278	4.0	18	292	8.8
4,000	30	212	8.6	29	236	6.8	23	312	5.5	13	257	7.6	21	288	2.8	12	290	9.6	30	220	8.8	20	283	3.7	21	221	10.0	20	142	1.8				20	300	5.5	13	295	6.7
5,000	26	224	11.3	28	238	9.3	18	303	5.9	10	260	9.4	18	290	3.1	10	304	11.4	30	216	10.9	16	283	3.9	18	229	11.1	16	117	3.2				15	304	7.1			
6,000	24	232	13.1	23	244	12.0	16	304	5.8				15	283	4.4				30	227	12.0	15	295	5.2	15	239	11.0	14	127	2.9				12	300	9.4			
8,000	20	242	20.2	17	260	14.8	12	324	5.1				12	330	2.6				26	228	14.7																		
10,000	15	244	24.4	14	264	19.8													21	237	15.8																		

Altitude (meters) m. s. l.	Oakland, Calif. (8 m.)			Oklahoma City, Okla. (396 m.)			Omaha, Nebr. (306 m.)			Phoenix, Ariz. (338 m.)			Rapid City, S. Dak. (982 m.)			St. Louis, Mo. (181 m.)			St. Paul, Minn. (225 m.)			San Antonio, Tex. (240 m.)			San Diego, Calif. (15 m.)			Sault Ste. Marie, Mich. (225 m.)			Seattle, Wash. (116 m.)			Spokane, Wash. (603 m.)			Washington, D. C. (24 m.)		
	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity	Observations	Direction	Velocity
Surface	30	262	7.6	30	171	5.1	29	157	2.1	30	259	1.5	28	113	1.5	29	202	2.3	30	161	0.6	29	132	3.8	30	246	3.6	27	284	3.3	29	238	2.5	29	240	2.0	30	238	1.9
500	30	279	7.2	30	172	6.1	29	174	4.1	30	265	2.4				29	218	4.7	30	169	0.6	29	139	4.9	30	274	2.5	27	282	4.4	29	230	3.4				30	232	2.4
1,000	29	289	5.1	30	171	7.2	28	188	5.2	30	255	3.5	28	122	1.2	28	214	5.9	29	199	2.1	29	143	5.2	29	292	2.1	25	271	5.4	28	221	4.6	29	235	3.3	26	260	3.9
1,500	28	284	5.4	30	186	6.7	25	204	6.5	30	239	3.8	28	160	1.5	28	229	5.8	27	221	4.2	28	147	4.6	29	283	2.6	23	280	6.6	27	214	5.0	29	224	3.6	25	266	5.7
2,000	28	274	4.7	26	201	7.0	23	212	9.0	30	223	4.4	27	213	2.3	26	238	6.1	22	254	5.5	26	156	5.0	28	272	3.4	22	284	6.9	23	198	5.6	27	222	4.2	23	279	7.8
2,500	28	258	5.3	26	218	6.4	23	228	9.4	30	218	6.4	26	250	4.0	25	252	7.0	19	266	6.5	23	158	4.0	27	257	4.3	19	296	6.4	20	198	6.3	21	216	4.7	22	285	9.6
3,000	28	254	6.0	23	230	5.5	23	248	10.6	30	217	6.9	24	261	6.5	25	261	7.3	18	277	7.8	20	177	2.5	27	251	4.8	19	301	7.3	14	206	6.6	18	211	5.8	22	285	10.3
4,000	28	256	8.7	19	250	3.0	21	270	11.8	30	216	8.5	24	263	9.0	19	276	9.7	16	282	12.2	18	293	0.6	27	248	6.1	16	301	10.5	10	214	5.8	11	219	7.4	22	288	10.8
5,000	26	254	11.3	17	298	3.5	18	285	12.0	29	228	7.8	22	260	12.6	15	284	7.7	11	279	12.0	14	282	0.9	25	240	7.7	13	293	14.3							16	285	11.1
6,000	26	254	14.4	14	307	4.6	18	292	14.1	26	233	7.1	20	260	15.6	14	289	9.8	11	288	15.0	13	292	2.2	22	239	8.8	11	287	17.7							10	267	13.6
8,000	24	252	19.4	12	289	8.1				24	247	8.8				11	315	13.0							18	241	12.3												
10,000	16	258	20.3							22	261	12.8													15	238	14.1												
12,000	10	269	17.2							18	256	15.2																											

TABLE 3.— *Maximum free-air wind velocities (m. p. s.) for different sections of the United States based on pilot balloon observations during June 1946*

Section	Surface to 2,500 meters (m. s. l.)					2,501 to 5,000 meters (m. s. l.)					Above 5,000 meters (m. s. l.)				
	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station	Maximum velocity	Direction	Altitude (m.) m. s. l.	Date	Station
Northeast [1]	42.0	NW.	2,102	10	Caribou, Maine	52.4	WNW.	5,000	13	Burlington, Vt	76.0	W.	7,837	18	Caribou, Maine.
East-Central [2]	29.8	SW.	2,370	1	Knoxville, Tenn	48.0	SW.	4,870	2	Hatteras, N. C	97.0	WSW.	12,022	3	Huntington, W. Va.
Southeast [3]	20.7	SSW.	1,006	2	Jacksonville, Fla	25.0	WNW.	4,426	5	Charleston, S. C	48.0	W.	10,719	4	Atlanta, Ga.
North-Central [4]	35.8	SSW.	1,215	24	St. Paul, Minn	38.9	W.	5,000	7	Bismarck, N. Dak	66.0	WSW.	11,565	18	Bismarck, N. Dak.
Central [5]	39.6	SSW.	1,412	12	Dodge City, Kans	56.0	SSW.	4,909	20	Columbia, Mo	76.0	SSW.	6,449	20	Columbia, Mo.
South-Central [6]	28.2	SSW.	2,387	15	Amarillo, Tex	39.5	W.	4,933	1	Fort Worth, Tex	74.0	SSW.	12,190	4	Burrwood, La.
Northwest [7]	37.6	W.	2,409	6	Great Falls, Mont	44.3	S.	3,766	9	Butte, Mont	71.0	SW.	10,298	5	Boise, Idaho.
West-Central [8]	32.0	SSW.	2,466	5	Modena, Utah	57.1	SW.	4,926	5	Reno, Nev	65.0	S.	10,888	11	Oakland, Calif.
Southwest [9]	32.6	SW.	2,160	14	Las Vegas, Nev	36.0	SW.	4,780 4,960	26	Albuquerque, N. Mex.	59.2	WSW.	12,929	11	Bakersfield, Calif.

[1] Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, and northern Ohio.
[2] Delaware, Maryland, Virginia, West Virginia, southern Ohio, Kentucky, eastern Tennessee, and North Carolina.
[3] South Carolina, Georgia, Florida, and Alabama.
[4] Michigan, Wisconsin, Minnesota, North Dakota, and South Dakota.
[5] Indiana, Illinois, Iowa, Nebraska, Kansas, and Missouri.
[6] Mississippi, Arkansas, Louisiana, Oklahoma, Texas (except El Paso), and western Tennessee.
[7] Montana, Idaho, Washington, and Oregon.
[8] Wyoming, Colorado, Utah, northern Nevada, and northern California.
[9] Southern California, southern Nevada, Arizona, New Mexico, and extreme west Texas.

RIVER STAGES AND FLOODS FOR JUNE 1946

By C. R. JORDAN

[NOTE.—The May flood in the Susquehanna River will be covered in the July issue of the REVIEW.]

Precipitation during June was generally light over the western half of the country except in northeastern Wyoming, western South Dakota, and the far Northwest. Less than the usual amounts were recorded also in central Virginia, western Carolinas, northern Tennessee, and southern Kentucky. Rainfall was particularly heavy in sections of Alabama, Ohio, southeastern Pennsylvania, northeastern Wyoming, western South Dakota, and on the Washington coast.

Floods over relatively small areas as the result of intense local storms were reported in Iowa, Wisconsin, and Wyoming. Drought conditions continued in the Southwest and spread to include a larger portion of Utah and Colorado.

Floods in northern Wisconsin.—Maximum floods occurred in the smaller tributaries draining into Lake Superior, principally the Bad and White Rivers in Ashland County, extending southward to Butternut, Wis., in that county. The Official in Charge, Weather Bureau Office, La Crosse, Wis., reports as follows regarding the floods:

> These floods, occurring June 24–25, appeared following a 4-day period of excessive rainfall, including a belt about 75 miles wide from north-central Minnesota extending southeastward into extreme upper Wisconsin River Valley. These excessive rains were associated with frontal thunderstorms and were augmented by the presence of maritime Gulf air mixing with the cold air from Lake Superior. At the time of the Ashland County flood, the soil had become well saturated from rains occurring generally over Wisconsin and Minnesota on June 17. Damage in the Ashland County flood and also in some sections of Bayfield County has been estimated at nearly $3,000,000. The main item of damage in the Bad and White River basins was property loss, including buildings, factories, bridges, and railroads. Several stations reported rainfall of over 8 inches within 48 hours.
>
> No gaging stations are operated in either Ashland or Bayfield County, and the exact heights reached by the flood waters are not known.

Atlantic Slope drainage.—Heavy rain fell over eastern Pennsylvania on June 1–2, with the heaviest precipitation over Perkiomen Creek watershed. A stage of 16.2 feet, only 2 feet below the all-time record on July 9, 1935, resulted at Graterford, Pa. There was considerable damage to summer cottages and losses resulting from deposits of silt and debris on railroads. The main loss in the entire basin was the refilling of much of the section of the stream in the Philadelphia area that had recently been dredged.

There was some overflow of lowlands along the Monocacy River near Frederick, Md., but no serious damage resulted.

East Gulf of Mexico drainage.—There was some light overflow at a few stations in the East Gulf States. Heavy rainfall the first of the month caused further rises on the Pearl River, which was still above flood stage from the May rains. No further damage resulted.

Mississippi System.—Intense local storms caused floods over comparatively small areas in northern Wisconsin, southern Iowa, and northern Wyoming.

A center of excessive rainfall occurred in the Root and Crooked Creek Valleys in Houston County, Minn., on June 16–17, and produced damaging floods in these valleys, the greater damage occurring in Crooked Creek Valley extending from Caledonia, Minn., eastward 8 miles to a point where it opens into the Mississippi River.

Floods of a minor nature occurred in the lower Chippewa Valley June 28–29, and in the extreme upper Wisconsin Valley near Merrill, Wis., on the 26th, as a result of heavy rainfall in extreme northern Wisconsin from the 24th to 26th, inclusive. In this 3-day period the rainfall over the northern fork of the Flambeau River averaged 5 inches, with gradually increasing amounts northward to Lake Superior, where over 10 inches must have fallen to produce the flood volume reported. The U. S. Geological Survey reports that the Flambeau River near Ladysmith, Wis., had a peak flow of 19,200 c. f. s., the greatest since 1922.

Extremely heavy rainfall, centering in Van Buren, Davis, and Lee Counties in southeastern Iowa, caused high stages in the streams of this area. Considerable flood damage was reported in the Fox and Chariton River basins. The discharge of the Des Moines River at Keosauqua, Iowa, was the greatest of record since 1903.

A severe flash flood occurred in Goose Creek Basin near Big Horn and Sheridan, Wyo., destroying several bridges and causing considerable property damage. Unofficial measurements of rainfall indicate amounts of 6 inches or more, most of which fell in a period of less than an hour.

Light overflow occurred at several widely scattered points throughout the Mississippi Valley, but no general flooding occurred over any great area. A tabulation of the stations at which flood stage was exceeded may be found at the end of this report.

West Gulf of Mexico drainage.—There was moderate flooding along the Sabine River most of the month. Considerable damage or loss was caused by the flood waters to bridges, fences, roads, buildings, oil field machinery, etc. There was also some suspension of logging and farming activities due to high water.

The rain of late May in the upper Trinity River basin caused rather severe floods that carried over into June. The flood crest flattened out as it moved downstream, and overflow was less severe in the middle and lower reaches of the stream.

There was some overflow of other streams at a few points in eastern Texas, but no serious damage resulted.

Pacific Slope drainage.—Streams in the Columbia River basin gradually receded during June from the annual peaks that occurred late in May or on the first of June.

Local flooding was reported in the Snohomish Valley from Monroe to Everett, Wash., as a result of heavy rains at the lower elevations and melting snows in the higher areas. Considerable damage, mostly to growing crops, was caused by the overflow.

Flood at Bethel, Alaska.—There was some flooding of lowlands along the lower Kuskokwim River during the last week of May. The village of Akiak was flooded and badly damaged by ice action, the ice jam extending 8 to 10 miles downstream. On the night of May 25, the jam below Akiak was bombed, and immediately thereafter the water began to recede at Akiak. The following afternoon a solid ice cake about a square mile in area stuck in a curve of the river just at Bethel village. The water rose rapidly and the airport at Bethel was flooded. Some equipment was washed away from the field or damaged by the water and ice.

FLOOD STAGE REPORT FOR JUNE 1946

[All dates in June unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE					
	Feet			*Feet*	
Chenango: Sherburne, N. Y.	8	11	11	8.1	11
Chemung: Chemung, N. Y.	12	2	3	13.3	3
Susquehanna:					
Oneonta, N. Y.	12	2	3	13.2	3
Vestal, N. Y.	14	3	3	14.0	3
Roanoke:					
Williamston, N. C.	10	May 21	3	10.6	May 26, 31
Lock No. 2, Elizabethtown, N. C.	20	24	24	20.6	24
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	May 17	12	20.6	May 24
Choctawhatchee: Caryville, Fla.	12	4	6	12.6	5
Tombigbee: Lock No. 3, Ala.	33	3	6	35.2	5
Pearl:					
Jackson, Miss.	18	May 19	11	27.4	May 27
Monticello, Miss.	15	1	4	16.0	2
Pearl River, La.	12	May 16	15	14.9	May 22
				14.3	3
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Chippewa: Durand, Wis.	11	27	29	12.2	28
Root: Houston, Minn.	15	17	17	15.5	17
Wisconsin: Merrill, Wis.	11	25	26	11.5	25
Illinois:					
Peru, Ill.	17	21	21	17.1	21
Havana, Ill.	14	20	July 1	15.6	23–24
Beardstown, Ill.	14	21	July 4	16.7	25
Mississippi: Fort Ripley, Minn.	10	29	July 7	10.8	30
Missouri Basin					
Solomon: Beloit, Kans.	18	1	1	18.0	1
		20	22	20.5	21–22
Grand: Chillicothe, Mo.	18	20	21	23.4	20
Osage: Quenemo, Kans.	30	20	21	32.0	21
Ohio Basin					
Allegheny: Olean, N. Y.	10	May 28	May 31	17.3	May 29
		2	2	10.2	2
Hocking: Athens, Ohio	17	20	20	17.0	20
Olentangy: Delaware, Ohio	9	18	20	10.0	20
Scioto:					
LaRue, Ohio	11	18	19	12.8	18
Prospect, Ohio	10	17	21	12.1	19
Circleville, Ohio	14	18	22	17.3	19
Chillicothe, Ohio	16	19	22	18.4	19
Piketon, Ohio	16	18	22	20.6	20
Licking: Falmouth, Ky.	28	18	18	28.1	18
Wabash:					
Bluffton, Ind.	10	May 29	May 31	11.2	May 30
Terre Haute, Ind.	14	20	23	15.2	21
Ohio: Dam No. 7, Midland, Pa.	30	3	3	30.1	3
White Basin					
Black:					
Black Rock, Ark.	14	May 2	14	23.6	1
Pocahontas, Ark.	17	May 18	10	21.7	May 29
White:					
Newport, Ark.	26	May 19	5	30.0	May 30
Augusta, Ark.	32	May 19	11	34.9	May 31
Georgetown, Ark.	21	May 20	17	27.4	1
Des Arc, Ark.	24	May 24	15	29.9	2–3
Clarendon, Ark.	26	May 8	25	31.4	4–6
St. Charles, Ark.	25	May 16	26	29.5	7–9
Arkansas					
Cottonwood:					
Cottonwood Falls, Kans.	9	19	20	11.5	19
Emporia, Kans.	20	20	22	23.7	21
Neosho:					
Neosho Rapids, Kans.	22	20	22	26.5	20
Burlington, Kans.	27	21	23	29.8	22
LeRoy, Kans.	23	23	23	23.1	23
Iola, Kans.	15	24	24	15.0	24

FLOOD STAGE REPORT FOR JUNE 1946—Continued

[All dates in June unless otherwise specified]

River and station	Flood stage	Above flood stages—dates		Crest [1]	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM—con.					
Red Basin					
	Feet			*Feet*	
Ouachita: Camden, Ark.	26	May 19	6	36.9	May 29
Little: Whitecliffs, Ark.	25	May 27		27.1	May 28
Sulphur:				39.5	May 18
Hagansport, Tex.	38	May 15	6	41.0	May 20
				20.6	May 24
				41.4	2
				27.0	May 21
Naples, Tex.	22	May 16	12	27.5	May 24
				28.6	May 28
				29.4	4
				20.4	May 21
Cypress: Jefferson, Tex.	18	May 19	10	22.2	May 26
				23.6	5
Red: Alexandria, La.	32	4	12	33.4	9
Lower Mississippi Basin					
St. Francis:				23.3	May 6–7, 22
Fisk, Mo.	20	May 2	9	23.4	May 25, 29
				23.2	2
				20.8	May 8–9
St. Francis, Ark.	18	May 5	15	20.9	May11–12
				21.5	May27–29
Atchafalaya Basin					
Atchafalaya:					
Atchafalaya, La.	25	May 31	7	25.6	3–5
Morgan City, La.	6	1	1	6.6	1
WEST GULF OF MEXICO DRAINAGE					
Whiskey Chitto Creek: Mittie, La.	15	3	3	16.8	3
Calcasieu: Kinder, La.	16	2	4	17.2	3
		9	11	17.2	10
Sabine:					
Mineola, Tex.	14	May 14	9	20.6	2
Gladewater, Tex.	26	May 22	15	38.8	5
Tatum, Tex.	25	7	8	28.2	7–8
Logansport, La.	25	May 30	25	35.2	13
Milan, Tex.	30	6	30	30.8	22
Bon Wier, Tex.	17	May 29	(2)	20.3	2–3
				18.4	10
				19.8	28
Neches: Evadale, Tex.	16	5	11	16.3	9
Elm Fork: Carrollton, Tex.	6	May 29	5	13.0	1
East Fork: Rockwall (nr.), Tex.	10	May 28	5	17.6	1
		21	21	11.2	21
Trinity:					
Dallas, Tex.	28	May 29	8	40.3	May 30
				40.6	2
Rosser (nr.), Tex.	26	May 30	13	39.4	5
Trinidad, Tex.	28	May 29	16	43.8	7
Long Lake, Tex.	40	6	18	44.8	10
Midway, Tex.	40	13	22	44.0	16
Liberty, Tex.	24	1	29	26.8	5–6
				27.4	25–26
Rio Grande:					
Del Rio, Tex.	15	23	24	21.0	23
Eagle Pass, Tex.	16	24	24	18.0	24
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Willamette: Portland, Oreg.	18	May 22		20.9	1
Columbia:					
The Dalles, Oreg.	40	May 11		44.1	May 29
Vancouver, Wash.	15	May 9	(2)	21.4	1

[1] Provisional. [2] Continued at end of month.

CLIMATOLOGICAL DATA FOR JUNE 1946

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS

[For description of tables and charts, see Review, January 1943, p. 15]

In the following table are given for the various sections of the climatological service of the Weather Bureau the monthly average temperature and total rainfall; the stations reporting the highest and lowest temperatures, with dates of occurrence; the stations reporting the greatest and least total precipitation; and other data as indicated by the several headings.

The mean temperature for each section, the highest and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course, the number of such records is smaller than the total number of stations.

Section	Temperature								Precipitation					
			Monthly extremes								Greatest monthly		Least monthly	
	Section average	Departure from the normal	Station	Highest	Date	Station	Lowest	Date	Section average	Departure from the normal	Station	Amount	Station	Amount
	°F.	°F.		°F.			°F.		In.	In.		In.		In.
Alabama	76.6	−1.7	Andalusia	99	24	Valley Head	41	6	5.52	+1.27	Montgomery	11.47	Waterloo	1.54
Arizona	77.6	+2.4	Maricopa	115	[1] 5	McNary	28	29	.04	−.30	Bisbee	1.11	82 stations	.00
Arkansas	75.6	−1.5	2 stations	99	[1] 14	Lead Hill	41	4	2.12	−1.97	Siloam Springs	7.46	2 stations	.00
California	66.8	−1.1	do	116	[1] 14	Boca	22	7	.04	−.28	Elk Valley	1.10	250 stations	.00
Colorado	63.3	+1.7	do	107	[1] 15	3 stations	20	[1] 1	.84	−.57	Arriba	7.08	5 stations	.00
Florida	79.2	−.7	3 stations	99	[1] 20	Glen St. Mary	53	6	6.78	.00	Punta Gorda	15.39	Apalachicola	1.86
Georgia	76.6	−1.6	Eastman	101	20	Blairsville	39	6	4.23	−.18	Brunswick	8.52	Camp Stewart	1.43
Idaho	59.7	−.4	2 stations	99	[1] 20	2 stations	21	[1] 7	1.21	−.17	Pierce	5.77	4 stations	.06
Illinois	72.3	+.1	Mount Vernon	100	[1] 17	Sycamore	34	3	4.40	+.42	Hoopeston	9.53	Marion	.36
Indiana	71.4	−.2	2 stations	98	[1] 18	Wheatfield	36	3	4.12	+.21	Valparaiso	9.62	Mount Vernon	1.08
Iowa	69.8	+.2	Little Sioux	108	16	Decorah	27	3	6.41	+1.70	Sigourney	11.21	Cushing	2.55
Kansas	75.8	+2.0	Hill City	113	15	2 stations	39	[1] 2	3.16	−.86	Eskridge	9.25	Hudson	.38
Kentucky	73.1	−.8	Paducah	98	[1] 16	Farmers	39	5	4.16	.00	Falmouth	8.38	Paducah	.28
Louisiana	78.3	−1.8	Asheville	101	16	Pollock	41	5	7.23	+2.46	Paradis	17.90	Plain Dealing	1.59
Maryland-Delaware	69.7	−1.2	Keedysville, Md	96	11	Oakland, Md	33	5	4.17	+.21	Easton, Md	7.77	Annapolis, Md	1.12
Michigan	63.2	−1.2	Sandusky	99	30	Kenton	24	2	3.40	+.24	Bergland	10.55	Rudyard	.77
Minnesota	64.2	−.6	Canby	99	10	Pokegema Dam	25	1	5.70	+1.56	Hinckley	11.74	Grand Marais	2.18
Mississippi	77.1	−1.8	Belzoni	98	[1] 14	Vicksburg AP	44	5	5.59	+1.38	Leakesville	15.85	Lake Cormorant	1.63
Missouri														
Montana	58.8	−.8	Glendive	99	22	Lima	20	28	2.30	−.28	Kings Hill	5.00	West Yellowstone	.58
Nebraska	70.8	+1.6	Red Cloud	113	15	Fort Robinson	34	8	3.11	−.57	Ashland	9.76	Scottsbluff	.84
Nevada	66.3	+1.9	Las Vegas AP	109	30	Lamoille	23	24	.07	−.45	Jarbidge	1.04	40 stations	.00
New England	63.5	−.6	Haverhill, Mass	98	25	Somerset, Vt	25	19	3.09	−.43	Petersham, Mass	7.81	Machias, Maine	.67
New Jersey	68.1	−1.0	Elizabeth	99	27	Charlotteburg	33	6	5.25	+1.42	Canoe Brook	7.94	Bridgeton	2.52
New Mexico	70.7	+1.9	Maljamar	113	[1] 12	Elizabethtown	12	1	.45	−.79	Des Moines	2.49	19 stations	.00
New York	64.0	−1.1	Dansville	99	30	2 stations	29	19	3.77	+.11	Allegany State Park	7.09	Lockport	1.26
North Carolina	73.2	−1.0	Monroe	104	19	Mount Mitchell	30	5	3.73	−.89	Southport	11.33	Concord	.65
North Dakota	63.2	+.4	Elbowoods	100	22	Arvilla	26	2	3.06	−.43	Larimore	7.32	Fairfield	1.19
Ohio	69.0	−.7	Hillsboro	96	[1] 26	2 stations	35	[1] 4	5.94	+2.01	Peebles	9.40	Brecksville	1.96
Oklahoma	76.6	−.6	Alva	108	17	do	40	[1] 3	3.00	−.95	Rose	8.47	Carter Tower	.36
Oregon														
Pennsylvania	65.8	−2.4	Marcus Hook	100	18	Philipsburg	28	6	6.05	+1.89	Carrolltown	11.22	Blakeslee Corners	2.74
South Carolina	76.6	−1.1	Eutawville	102	21	Ceasars Head	40	5	2.64	−2.04	Orangeburg	5.35	Cheraw	.57
South Dakota	66.6	+.4	Pukwana	110	23	Custer	26	19	4.45	+.93	La Delle	8.15	McLaughlin	1.98
Tennessee	74.0	−.9	2 stations	98	17	Rugby	35	5	2.88	−1.26	McMinnville	9.39	Kingston Springs	.22
Texas	78.8	−1.4	4 stations	109	[1] 29	Crosbyton	40	3	3.34	+.35	Anahuac	20.82	El Paso	.20
Utah	66.2	+1.8	Zion National Park	108	27	Bryce Canyon	24	1	.09	−.58	Hewinta R. S	.88	39 stations	.00
Virginia	70.7	−1.2	2 stations	98	18	2 stations	32	5	3.30	−.85	Hopewell	8.42	Emory	.47
Washington	58.8	−2.0	Richland	102	19	Paradise R. S	27	6	3.05	+1.41	Palmer	11.32	Kennewick	.37
West Virginia	69.0	−.8	Brownsville	98	25	Cranberry Glades	29	6	5.27	+.81	Creston	10.22	Alderson	1.65
Wisconsin	64.2	−.9	6 stations	95	[1] 16	2 stations	24	2	6.43	+2.24	Mellen	15.95	Milwaukee (City)	2.18
Wyoming	59.7	+1.1	Torrington	102	15	Bondurant	20	7	1.85	+.14	Colony	5.99	Rock Springs (City)	.10
Alaska (May)	42.1	+.6	Ketchikan	77	9	Barrow	−2	1	1.80	+.18	Latouche	14.35	Wainwright	.03
Hawaii	73.9	+.7	Kualapuu	94	15	Haleakala, R. S	42	[1] 17	3.43	−1.20	Kukui	22.00	20 stations	.00
Puerto Rico	77.6	+.1	Utuado	96	4	Garzas	55	13	4.85	−1.07	Rio Blanco (1800)	13.23	Santa Rita	.25

[1] Other dates also.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR JUNE 1946

District and station	Elevation of instruments: Barometer above sea level	Thermometer above ground	Anemometer above ground	Pressure: Station	Sea level	Departure from normal	Temperature of the air: Mean	Departure from normal	Maximum	Date	Mean maximum	Minimum	Date	Mean minimum	Greatest daily range	Total degree days	Mean temperature of the dew point	Mean relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	Days with 0.01 inch or more	Wind: Average hourly velocity	Prevailing direction	Maximum velocity: Miles per hour	Direction	Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms
NEW ENGLAND	*Ft.*	*Ft.*	*Ft.*	*Mb.*	*Mb.*	*Mb.*	°F.	°F.	°F.		°F.	°F.		°F.	°F.		°F.	%	*In.*	*In.*	*In.*		*Mi.*								*0–10*	*In.*	*In.*	
							63.2	+0.5										75	2.34	−0.7											5.3			
Eastport	75	67	85	1,012.2	1,014.9	+1.4	56.0	+.9	88	27	65	40	1	47	39	278	46	76	.76	−2.2	.37	6	8.4	s.	26	nw.	9	12	9	9	5.1	.0	.0	1
Greenville, Maine	1,070	6	41	976.3	1,015.2	----	59.9	+.7	92	28	74	31	2	46	41	214	52	---	2.41	−1.3	.60	13	4.1	s.	26	------	9	5	16	9	---	.0	.0	6
Portland, Maine [1]	103	5	43	1,011.9	1,015.6	+1.4	61.8	+2.2	93	27	73	39	19	51	35	163	53	74	1.67	−1.6	.68	8	8.2	s.	26	w.	9	12	7	11	5.1	.0	.0	2
Concord [1]	289	5	45	1,005.8	1,015.9	+1.3	63.6	+1.9	94	26	78	35	3	49	43	134	53	70	1.78	−1.4	.45	10	6.8	s.	29	nw.	9	9	11	10	5.8	.0	.0	6
Burlington [1]	403	5	51	1,001.0	1,015.2	+.6	64.8	−.9	96	29	77	37	19	52	35	127	54	70	1.57	−1.8	.62	10	8.5	s.	29	s.	11	8	13	9	5.7	.0	.0	2
Boston [1]	124	33	62	1,011.9	1,016.6	+2.0	67.5	+1.0	94	26	77	45	1	58	28	74	56	70	2.76	−.1	1.07	10	10.6	sw.	35	nw.	8	9	10	11	5.4	.0	.0	2
Nantucket	12	4	34	1,017.3	1,018.0	+2.8	59.8	−1.2	76	29	67	43	3	53	25	171	54	84	2.89	+.2	2.52	7	12.8	sw.	35	sw.	11	6	15	9	5.6	.0	.0	5
Block Island	26	11	46	1,016.9	1,018.0	+3.1	61.6	−.2	77	29	68	46	2	55	20	128	56	86	2.80	+.2	1.90	11	14.6	sw.	35	ne.	2	11	10	9	5.3	.0	.0	1
Providence [2]	159	46	60	1,011.5	1,017.3	+2.4	68.7	+.4	93	27	80	44	3	58	31	54	55	74	2.91	+.2	1.81	11	8.8	sw.	33	nw.	8	8	13	9	5.3	.0	.0	2
Hartford [1]	159	5	44	1,011.5	1,017.3	+2.4	66.8	−.3	92	26	79	40	3	55	34	74	56	71	2.99	−.1	1.87	7	8.3	s.	40	n.	8	8	11	11	5.8	.0	.0	4
New Haven [1]	107	5	39	1,013.9	1,017.6	+2.7	64.7	+1.4	84	8	74	40	3	56	28	96	56	76	3.19	+.4	2.31	11	6.8	sw.	18	s.	30	8	10	12	5.8	.0	.0	2
MIDDLE ATLANTIC																																		
							69.6	−0.9										74	4.68	+1.1										6.2			
Albany [1]	97	26	40	1,012.9	1,016.6	+1.7	64.8	−1.9	94	26	77	37	3	53	38	108	54	72	4.20	+1.1	1.11	13	7.5	s.	30	w.	8	8	11	11	5.6	.0	.0	8
Binghamton [2]	871	60	79	986.5	1,018.0	+3.1	64.7	−.9	92	25	77	38	6	53	36	122	56	82	4.15	+.8	1.34	16	5.2	w.	29	w.	8	3	14	13	6.7	.0	.0	10
New York	314	415	454	1,006.4	1,017.6	+2.4	68.5	−.3	89	27	77	48	2	60	30	48	55	68	4.91	+1.6	3.53	13	12.8	sw.	51	nw.	11	8	12	10	5.8	.0	.0	7
Harrisburg [1]	374	30	49	1,004.4	1,018.0	+2.4	68.8	−1.5	94	25	80	47	3	58	38	50	58	72	5.61	+2.0	2.81	14	6.8	sw.	26	sw.	29	5	8	17	6.8	.0	.0	9
Philadelphia [1]	114	5	57	1,014.2	1,018.3	+3.1	69.8	−1.6	91	25	79	50	2	61	32	38	58	72	8.61	+5.4	4.28	13	7.8	sw.	24	sw.	28	8	7	15	6.4	.0	.0	5
Reading	323	47	306	1,006.4	1,018.0	----	69.0	−1.3	93	25	79	49	2	59	32	53	----	----	7.72	+4.2	4.16	11	9.0	sw.	34	nw.	4	6	11	13	6.3	.0	.0	5
Scranton	805	72	104	989.2	1,018.0	+2.8	65.2	−2.6	92	25	76	42	6	55	33	91	----	----	3.80	+.1	1.43	14	5.9	sw.	32	nw.	11	8	17	5	5.3	.0	.0	6
Atlantic City	52	37	172	1,016.6	1,018.3	+3.1	66.4	−.2	91	8	73	49	3	60	26	63	58	78	3.41	+.4	1.07	11	14.6	s.	42	n.	2	6	9	15	6.6	.0	.0	6
Trenton	190	89	107	1,011.2	1,018.0	----	68.9	−.6	91	27	79	49	2	59	34	48	57	70	6.03	+2.9	3.26	11	8.7	s.	26	n.	11	5	11	14	6.4	.0	.0	7
Baltimore [2]	123	100	215	1,013.9	1,018.3	+2.7	72.2	−.5	93	8	82	52	2	63	31	18	60	72	3.65	−.2	2.06	10	9.4	s.	51	nw.	18	9	8	13	5.8	.0	.0	3
Washington [2]	112	56	100	1,014.6	1,016.9	+1.0	72.7	+.5	95	18	83	51	6	62	33	11	60	70	2.38	−1.8	.93	8	6.7	sw.	34	e.	29	7	12	11	6.3	.0	.0	1
Cape Henry	18	8	54	1,019.0	1,019.6	----	74.2	+.6	95	8	83	55	6	66	32	0	64	75	4.56	+1.5	2.12	13	10.3	sw.	35	n.	9	5	9	11	6.4	.0	.0	12
Lynchburg [1]	686	4	50	994.6	1,019.0	+2.7	71.6	−1.5	95	18	83	47	6	60	34	12	62	76	2.51	−1.3	1.43	11	7.7	sw.	22	nw.	12	7	10	13	6.1	.0	.0	7
Norfolk [2]	91	80	125	1,016.3	1,019.6	+3.7	73.7	−.7	94	9	82	56	6	65	31	5	63	76	4.56	+.3	1.83	15	9.4	sw.	34	nw.	9	6	9	15	6.4	.0	.0	10
Richmond	144	11	52	1,013.2	1,018.3	+2.0	73.3	−.8	94	9	84	52	6	63	33	4	63	76	4.14	+.2	.94	13	7.1	sw.	32	nw.	9	10	8	12	5.8	.0	.0	9
SOUTH ATLANTIC																																		
							76.0	−0.2										75	3.55	−1.1										5.5			
Asheville	2,253	77	92	942.1	1,019.6	+3.3	70.3	+1.6	88	19	81	43	6	59	39	19	60	76	1.08	−2.8	.59	10	5.8	nw.	21	se.	1	6	13	11	5.9	.0	.0	7
Charlotte [2]	779	63	86	991.5	1,019.3	+3.0	76.9	+1.4	99	19	88	52	5	66	29	1	62	70	1.94	−2.3	1.04	7	6.8	sw.	30	nw.	12	7	13	10	5.8	.0	.0	8
Greensboro [1]	886	6	56	988.2	1,019.6	----	73.7	−.3	95	9	86	44	6	62	37	13	62	74	2.03	−2.8	.85	7	7.6	sw.	30	nw.	12	7	13	10	5.7	.0	.0	5
Hatteras	11	5	50	1,019.3	1,019.6	+3.3	72.8	−2.8	84	19	77	58	6	68	17	4	68	86	7.81	+3.3	3.26	10	12.4	sw.	26	n.	2	5	10	15	6.7	.0	.0	8
Raleigh [1]	376	5	69	1,005.8	1,019.6	+3.3	75.0	−.7	96	18	86	52	5	64	27	5	64	76	5.12	+.7	2.70	9	7.3	sw.	19	sw.	7	8	15	7	5.2	.0	.0	6
Wilmington	72	73	107	1,017.6	1,020.0	+3.7	75.3	−1.3	94	20	83	54	5	67	25	0	67	80	4.27	−.8	2.41	11	9.4	sw.	27	s.	2	7	14	9	5.5	.0	.0	11
Charleston [2]	48	11	92	1,018.0	1,019.6	+3.3	78.2	−.7	96	19	85	59	5	72	19	0	68	82	4.94	+.4	1.35	12	8.8	s.	23	nw.	22	14	6	10	4.9	.0	.0	9
Columbia, S. C. [2]	347	70	91	1,006.8	1,019.3	+3.0	78.6	+.5	98	19	89	54	5	68	27	0	64	66	.71	−3.5	.35	6	7.6	s.	27	sw.	21	10	16	4	4.4	.0	.0	4
Greenville, S. C.	1,040	18	36	982.7	1,019.3	----	75.5	+1.4	93	9	86	53	5	65	30	1	62	70	4.19	−.4	1.49	14	7.9	sw.	30	n.	9	8	13	9	5.5	.0	.0	13
Augusta [2]	182	62	77	1,012.9	1,019.3	+3.0	78.8	+.1	97	19	90	54	6	68	29	0	64	66	1.80	−2.9	.76	7	5.2	s.	17	se.	28	9	14	7	5.1	.0	.0	8
Savannah [4]	65	73	152	1,017.6	1,019.6	+3.3	78.4	+.2	98	20	87	57	6	70	24	0	69	77	4.47	−.8	2.61	8	8.7	se.	32	ne.	17	10	8	12	5.6	.0	.0	10
Jacksonville [2]	43	86	110	1,018.3	1,020.0	+3.7	78.9	−1.0	96	20	86	63	7	71	22	0	70	80	4.01	−1.3	1.38	15	7.4	se.	21	w.	3	7	11	12	6.0	.0	.0	7
FLORIDA PENINSULA																																		
							80.4	−0.3										80	7.41	+1.2										6.7			
Key West [2]	21	10	64	1,016.9	1,017.6	+2.0	81.9	.0	91	4	87	72	8	77	16	0	74	80	6.70	+2.5	2.67	14	9.6	e.	33	nw.	5	5	11	14	6.6	.0	.0	8
Miami [2]	25	242	249	1,017.6	1,018.6	+2.7	79.0	−1.0	87	4	83	70	11	75	16	0	73	79	4.12	−3.0	1.30	18	13.8	se.	44	se.	10	3	17	10	6.5	.0	.0	8
Tampa [1]	35	6	43	1,017.6	1,019.0	+2.7	80.2	.0	94	26	89	66	8	71	24	0	70	82	11.41	+4.2	2.84	16	7.6	e.	34	w.	15	4	12	14	6.9	.0	.0	17
EAST GULF																																		
							77.2	−1.5										77	6.07	+1.4										5.5			
Atlanta [1]	1,173	33	72	978.3	1,019.0	+2.7	75.4	−1.3	94	20	86	52	5	65	31	0	63	70	6.54	−2.6	3.23	10	9.8	w.	47	n.	21	12	12	6	4.9	.0	.0	8
Macon [2]	370	79	87	1,005.8	1,019.0	+2.7	77.5	−1.4	95	20	88	54	6	67	27	0	65	71	5.52	+1.5	2.73	8	4.6	s.	20	ne.	14	8	9	13	5.9	.0	.0	6
Thomasville	278	49	58	1,009.8	1,019.6	+3.7	78.3	−1.2	94	19	88	59	6	68	26	0	----	----	2.97	−2.5	1.03	11	----	----	----	------	---	5	16	9	----	.0	.0	10
Apalachicola	35	11	51	1,017.3	1,018.6	----	78.8	−1.0	90	22	85	64	5	72	20	0	71	79	1.86	−3.7	1.07	7	8.1	se.	23	e.	6	9	10	11	5.7	.0	.0	4
Pensacola	56	54	79	1,016.6	1,018.6	+3.0	77.9	−1.4	89	2	84	60	4	72	20	0	70	78	10.08	+5.4	5.30	7	7.8	se.	21	s.	1	16	4	10	4.6	.0	.0	5
Anniston	741	9	----	----	----	----	75.8	−.8	95	20	88	48	5	64	35	1	----	----	5.49	+1.3	4.03	8	----	se.	----	------	---	11	13	6	----	.0	.0	5
Birmingham [1]	700	5	62	994.6	1,019.6	+4.0	74.9	−1.8	92	10	85	47	5	64	32	4	65	75	7.06	+2.6	1.88	13	6.4	se.	45	n.	9	8	12	10	5.7	.0	.0	10
Mobile [2]	57	86	161	1,016.6	1,018.6	+3.0	78.6	−1.7	92	24	86	58	5	71	26	0	69	80	7.37	+1.9	4.16	10	7.4	s.	20	n.	4	12	9	9	4.7	.0	.0	6
Montgomery [2]	218	92	105	1,011.2	1,019.0	+3.1	77.8	−1.8	94	9	87	57	5	69	25	0	66	76	11.47	+7.7	7.11	11	6.1	s.	21	ne.	9	14	8	8	4.6	.0	.0	8
Meridian [2]	375	67	92	1,005.4	1,018.6	+3.4	77.1	−1.0	94	10	88	52	5	67	30	2	68	79	4.08	−.8	2.29	9	5.2	s.	20	se.	14	6	14	10	6.0	.0	.0	5
Vicksburg [2]	247	82	102	1,009.5	1,018.3	+3.4	77.8	−1.2	94	14	87	55	4	69	23	2	70	85	3.27	−.7	1.58	13	7.1	s.	22	se.	26	4	15	11	6.6	.0	.0	10
New Orleans	53	50	84	1,016.3	1,018.0	+2.8	79.6	−1.0	92	30	86	63	5	73	19	0	70	78	7.19	+1.3	1.84	18	5.4	se.	17	se.	17	5	11	14	6.2	.0	.0	12
WEST GULF																																		
							79.1	−1.1										76	4.03	−0.4										5.4			
Shreveport [1]	249	5	64	1,008.8	1,017.3	+2.7	78.5	−1.9	95	14	87	57	5	70	25	0	68	78	5.18	+1.7	3.01	7	7.8	se.	23	nw.	20	6	11	13	6.3	.0	.0	9
Fort Smith	463	57	82	1,000.3	1,016.3	+2.4	76.2	−1.3	96	16	87	52	4	65	32	7	65	72	4.44	+.7	1.94	7	6.9	ne.	30	ne.	25	9	12	9	5.2	.0	.0	8
Little Rock [1]	357	26	58	1,005.1	1,018.0	+3.4	76.8	−.6	96	14	86	52	5	67	29	3	66	72	3.39	−.4	3.15	4	7.4	s.	38	s.	26	7	13	10	5.6	.0	.0	3
Austin [1]	605	10	41	994.9	1,015.9	----	79.1	−2.1	94	13	88	59	3	70	26	0	68	73	1.34	−1.1	.98	7	9.1	s.	25	s.	18	7	16	7	5.2	.0	.0	2
Brownsville [1]	57	5	54	1,012.5	1,014.6	----	81.5	−.9	93	15	90	64	6	73	23	0	72	80	2.89	−.3	1.08	6	11.6	se.	36	ne.	1	5	19	6	5.4	.0	.0	5
Corpus Christi [1]	20	4	33	1,015.2	1,015.9	+3.0	79.8	+.3	90	27	88	65	5	72	21	0	72	82	4.84	------	1.82	8	10.3	se.	30	e.	9	13	11	6	4.8	.0	.0	4
Dallas [1]	512	5	45	998.3	1,016.3	----	79.8	−.6	98	15	89	54	3	70	25	0	66	70	.92	−3.0	.55	6	11.3	s.	39	nw.	19	11	8	11	5.3	.0	.0	4
Fort Worth [1]	679	40	56	992.6	1,016.3	+3.1	78.4	−1.5	96	30	88	52	3	69	24	3	66	72	.65	−2.7	.43	7	11.2	s.	34	ne.	26	12	12	6	4.4	.0	.0	2
Galveston [2]	54	106	114	1,015.2	1,017.3	+3.1	80.2	−.5	90	15	84	64	1	76	14	0	72	77	4.31	−.1	2.71	10	10.1	s.	41	nw.	1	10	15	5	5.1	.0	.0	6
Houston [1]	138	157	190	1,011.5	1,016.6	----	79.6	−1.8	94	15	87	62	4	72	20	0	70	82	9.37	+4.8	5.54	14	8.9	se.	25	se.	25	5	15	10	5.9	.0	.0	10
Palestine	510	64	72	999.7	1,017.3	+3.4	77.8	−1.2	94	15	86	57	5	69	22	0	68	75	2.17	−1.5	1.16	7	6.4	s.	24	s.	8	4	18	8	5.5	.0	.0	5
Port Arthur [2]	34	59	134	1,015.9	1,016.9	----	80.2	−.8	93	14	87	61	4	73	20	0	70	81	11.04	+6.2	7.69	13	11.2	s.	51	n.	1	9	9	12	5.6	.0	.0	12
San Antonio [1]	693	8	51	991.5	1,015.9	+3.4	80.0	−1.0	96	30	90	58	7	70	32	0	69	77	2.92	+.5	1.32	7	9.2	se.	27	e.	20	7	12	11	6.1	.0	.0	3
OHIO VALLEY AND TENNESSEE																																		
							72.5	+0.7										73	4.60	+0.8										5.5			
Chattanooga [1]	762	6	66	992.2	1,013.4	+2.3	74.6	+1.4	93	20	86	46	5	63	34	5	64	76	5.16	+1.0	1.80	8	6.4	s.	30	sw.	20	9	13	8	5.3	.0	.0	6
Knoxville [1]	995	27	53	984.4	1,019.3	+3.7	74.0	+.2	93	10	85	46	5	63	30	8	63	70	3.94	−.2	2.37	9	6.8	sw.	27	w.	19	10	10	10	5.4	.0	.0	9
Memphis [4]	399	5	86	1,004.1	1,018.0	+3.1	77.2	+.8	97	14	88	50	5	67	31	4	66	72	4.12	+.6	1.19	6	7.3	s.	37	sw.	30	13	7	10	4.9	.0	.0	7
Nashville [1]	546	5	72	999.3	1,018.6	+3.0	76.6	+1.0	97	10	88	46	5	65	35	12	63	70	1.30	−2.7	.83	5	8.1	s.	33	nw.	13	7	17	6	5.2	.0	.0	4
Lexington [1]	989	4	28	983.4	1,019.0	+3.1	72.3	+.1	91	29	82	49	4	63	29	23	62	74	5.33	+1.3	1.51	8	----	sw.	----	------	---	10	13	7	4.9	.0	.0	9

See footnotes at end of table.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR JUNE 1946—Continued

District and station	Elevation of instruments: Barometer above sea level	Elevation of instruments: Thermometer above ground	Elevation of instruments: Anemometer above ground	Pressure: Station	Pressure: Sea level	Pressure: Departure from normal	Temperature of the air: Mean	Temperature of the air: Departure from normal	Temperature of the air: Maximum	Temperature of the air: Date	Temperature of the air: Mean maximum	Temperature of the air: Minimum	Temperature of the air: Date	Temperature of the air: Mean minimum	Temperature of the air: Greatest daily range	Total degree days	Mean temperature of the dew point	Mean relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: Days with 0.01 inch or more	Wind: Average hourly velocity	Wind: Prevailing direction	Wind: Maximum velocity: Miles per hour	Wind: Maximum velocity: Direction	Wind: Maximum velocity: Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms
OHIO VALLEY AND TENNESSEE—Con.	*Ft.*	*Ft.*	*Ft.*	*Mb.*	*Mb.*	*Mb.*	°*F.*	°*F.*	°*F.*		°*F.*	°*F.*		°*F.*	°*F.*		°*F.*	%	*In.*	*In.*	*In.*		*Mi.*								*0–10*	*In.*	*In.*	
Louisville [1]	525	106	120	999.3	1,018.3	+3.1	74.0	+.5	93	29	84	46	5	64	30	23	62	69	4.75	+.9	1.90	8	7.0	s.	22	sw.	30	10	13	7	5.1	.0	.0	5
Evansville [1]	431	11	40	1,002.4	1,018.0	+3.1	74.2	+2.3	95	18	85	46	5	63	32	21	62	70	3.06	−1.0	1.13	9	8.1	sw.	24	sw.	7	11	11	8	5.1	.0	.0	7
Indianapolis [1]	823	5	54	987.8	1,017.3	+2.4	70.5	+.6	93	29	81	43	5	60	32	39	60	72	2.37	.....	1.10	8	10.0	sw.	54	n.	13	7	14	9	5.9	.0	.0	6
Terre Haute [2]	575	68	149	997.0	1,017.6	.....	73.8	+1.0	95	16	84	46	3	64	28	23	62	72	3.41	−.5	2.02	11	9.4	s.	32	w.	11	11	9	10	5.3	.0	.0	7
Cincinnati [2]	627	11	51	995.6	1,018.3	+2.7	74.2	+3.0	94	18	84	50	5	64	31	13	63	76	5.25	+1.6	2.14	13	5.9	sw.	22	ne.	13	7	16	7	5.5	.0	.0	12
Columbus [2]	822	90	110	988.8	1,018.3	+2.7	70.6	−.3	92	29	81	48	4	60	31	27	59	72	7.25	+3.9	2.00	10	9.3	s.	32	s.	17	10	9	11	5.4	.0	.0	7
Dayton [1]	1,003	6	55	982.4	1,018.3	.....	69.7	−1.2	90	11	80	44	4	59	32	31	59	72	4.20	+.4	1.40	10	10.6	s.	29	w.	21	7	11	12	6.1	.0	.0	9
Elkins [1]	1,947	4	45	951.2	1,019.3	+3.4	66.0	+.4	86	30	78	37	5	54	39	64	60	84	6.22	+1.2	1.92	15	5.5	nw.	27	nw.	2	3	13	14	6.5	.0	.0	11
Parkersburg	637	77	84	995.6	1,018.3	+2.4	71.9	+.5	92	30	83	46	5	61	34	18	60	72	7.78	+3.8	2.79	12	5.7	se.	26	w.	18	6	16	8	5.8	.0	.0	9
Pittsburgh [1]	842	39	54	987.8	1,018.0	+2.4	68.5	−.1	91	26	79	46	4	58	34	43	58	72	4.93	+1.1	1.41	12	9.4	sw.	36	n.	29	4	13	13	6.5	.0	.0	9
LOWER LAKES																																		
							66.0	+0.2										70	4.33	+1.0											5.7			
Buffalo [1]	768	34	96	989.5	1,017.3	+2.4	63.9	−1.0	91	30	74	41	1	54	28	128	54	72	2.03	−.8	.69	8	12.6	sw.	40	sw.	11	6	17	7	5.4	.0	.0	7
Canton	448	10	61	999.7	1,015.6	.....	62.8	−.7	90	29	74	37	19	52	34	160	52	68	1.93	−1.4	.61	13	8.0	w.	26	w.	8	9	10	11	5.4	.0	.0	5
Oswego	335	71	85	1,004.1	1,016.3	+1.4	63.2	+.3	91	25	72	41	1	55	30	146	53	68	2.64	−.6	1.03	8	7.4	s.	27	n.	18	12	7	11	5.1	.0	.0	5
Rochester [1]	523	5	69	998.3	1,016.9	+2.0	65.2	+.1	93	30	76	40	10	54	33	113	54	68	3.21	+.2	.89	10	9.1	sw.	40	w.	11	8	10	12	5.6	.0	.0	6
Syracuse [1]	596	5	57	995.6	1,017.3	+2.4	65.0	+.5	93	25	76	40	3	54	32	123	56	70	3.85	.0	1.01	12	8.6	sw.	32	nw.	11	7	10	13	6.1	.0	.0	7
Erie [2]	714	57	81	992.2	1,018.0	+2.8	66.2	.0	88	30	74	45	1	59	26	98	57	77	5.84	+2.5	1.94	11	7.9	sw.	29	sw.	18	8	12	10	5.4	.0	.0	10
Cleveland [1]	762	27	54	990.5	1,018.0	+2.8	68.2	+.5	92	21	79	40	10	57	36	64	56	70	5.14	+2.0	2.87	11	10.3	s.	42	nw.	16	9	10	11	5.6	.0	.0	10
Sandusky	620	5	67	994.9	1,017.6	+2.4	69.2	+.4	93	30	79	47	10	60	33	53	.....	.....	8.64	+5.2	3.17	14	8.8	sw.	29	e.	16	11	11	8	5.1	.0	.0	8
Toledo [1]	628	5	47	994.6	1,017.6	+2.7	67.5	+.3	92	30	79	43	10	56	35	76	57	71	5.54	+2.2	2.57	12	11.6	sw.	36	se.	16	6	14	10	6.2	.0	.0	8
Fort Wayne [1]	857	5	33	986.5	1,017.3	.....	67.4	.0	90	28	78	43	4	56	36	71	58	72	4.76	+1.2	2.40	10	7.9	sw.	22	sw.	16	7	10	13	6.4	.0	.0	9
Detroit [1]	730	5	78	991.5	1,018.0	+3.1	67.4	+1.2	90	30	77	43	14	58	29	88	56	68	4.01	+.4	2.29	9	9.5	sw.	32	w.	8	5	14	11	6.1	.0	.0	9
UPPER LAKES																																		
							62.3	−0.1										71	3.51	+0.1											6.3			
Alpena	609	5	89	994.2	1,016.9	+2.3	60.2	−.2	88	23	69	40	9	51	31	191	50	70	3.00	−.3	1.04	12	9.7	se.	29	sw.	30	9	12	9	5.5	.0	.0	7
Escanaba	612	51	72	993.9	1,015.9	+2.0	59.8	−.9	82	12	68	38	9	52	31	181	50	74	4.14	+.9	1.10	11	10.3	s.	41	se.	7	4	14	12	6.5	.0	.0	7
Grand Rapids [2]	707	70	244	991.2	1,016.9	+2.0	67.8	.0	92	29	78	41	1	58	27	82	54	68	3.42	−.1	1.53	8	11.1	sw.	34	s.	11	10	6	14	5.8	.0	.0	8
Lansing [2]	878	5	90	985.8	1,017.3	.....	65.0	−1.4	90	28	75	40	1	55	31	127	54	68	2.48	−1.0	1.27	11	7.8	sw.	24	w.	8	4	12	14	6.7	.0	.0	10
Marquette	734	44	73	988.8	1,016.3	+2.4	59.4	+.5	89	28	69	36	1	32	29	221	48	70	2.85	−.4	1.06	13	8.1	n.	39	s.	24	3	12	15	6.9	.0	.0	9
Sault Sainte Marie [1]	614	11	52	993.6	1,016.3	+1.7	57.2	−.3	87	28	68	35	10	46	34	266	50	78	2.50	−.2	1.29	8	10.0	nw.	34	nw.	8	2	18	10	6.3	T	.0	7
Chicago [1]	673	5	36	992.2	1,016.6	+2.0	68.3	+.2	94	29	79	40	3	58	37	96	57	69	5.22	+1.7	1.71	13	9.4	sw.	27	nw.	17	11	6	13	5.5	.0	0	9
Green Bay	617	90	32	993.6	1,016.3	+2.1	64.1	−.8	92	28	75	40	4	54	33	136	54	72	4.17	+.5	1.73	11	8.0	s.	28	6	8	16	6.7	.0	.0	10
Milwaukee [1]	681	33	66	991.5	1,016.3	+2.1	64.1	+2.0	91	28	74	40	1	54	36	149	54	72	2.81	−.6	.76	11	12.5	sw.	38	nw.	17	7	9	14	6.3	.0	.0	9
Duluth [2]	1,133	5	47	974.6	1,015.6	+2.4	58.0	+.8	85	22	67	31	1	49	30	233	48	73	4.54	+.6	1.71	17	10.8	ne.	30	nw.	25	6	8	16	6.4	.0	.0	11
NORTH DAKOTA																																		
							64.0	+1.0										64	3.14	−0.5											6.4			
Fargo [1]	940	6	47	980.0	1,014.2	+1.7	64.6	+.2	90	23	77	34	1	53	35	98	54	70	4.03	.0	.68	15	11.8	n.	59	w.	28	2	15	13	6.4	.0	.0	13
Bismarck [1]	1,677	5	43	954.6	1,014.6	+3.1	65.2	+2.3	95	22	78	34	2	52	42	88	50	62	2.99	−.4	1.95	13	11.5	ne.	50	nw.	27	8	10	12	6.1	.0	.0	10
Devils Lake	1,478	11	44	961.7	1,014.9	+3.0	63.5	+1.6	90	22	76	33	2	51	38	113	48	64	2.98	−.6	1.50	10	8.5	ne.	25	s.	9	4	17	9	6.1	.0	.0	10
Grand Forks [1]	832	4	41	984.4	1,014.6	.....	62.6	.....	88	14	76	31	2	49	40	127	52	70	4.53	.....	1.37	10	.....	nw.	.....	.....	.....	.....	3	13	14	.....	.0	.0	10
Williston	1,878	42	50	947.5	1,013.9	+2.7	62.8	+.1	93	22	75	40	1	51	39	113	45	58	2.55	−.9	.90	12	7.0	nw.	34	nw.	6	3	14	13	6.9	.0	.0	11
UPPER MISSISSIPPI																																		
							70.8	+0.6										70	5.37	+1.2											5.7			
Minneapolis-St. Paul [1]	919	43	74	981.4	1,014.2	+1.0	67.0	−.5	93	23	77	35	2	57	35	84	56	70	7.80	+3.6	2.11	13	11.5	se.	43	se.	10	6	11	13	6.3	.0	.0	8
Springfield, Minn.	1,025	4	42	977.0	1,013.5	.....	68.0	.....	97	10	79	34	2	57	36	85	57	68	4.20	.....	1.18	15	.....	s.	.....	.....	.....	.....	8	11	11	.....	.0	.0	9
La Crosse [1]	714	5	29	989.2	1,015.2	+1.7	66.4	−.6	89	28	77	38	3	56	34	88	57	74	4.54	+.5	1.32	16	9.0	s.	34	s.	24	7	8	15	6.3	.0	.0	14
Madison [2]	974	70	78	981.0	1,015.9	+2.0	67.0	−.2	93	16	76	40	1	58	37	93	56	71	3.81	.0	.92	14	8.1	sw.	28	ne.	11	8	9	13	6.1	.0	.0	8
Charles City	1,015	10	51	979.3	1,015.6	+2.7	67.7	+1.2	93	16	78	37	3	57	33	88	.....	.....	3.98	−.6	.75	15	6.7	s.	20	sw.	10	10	10	10	5.3	.0	.0	10
Moline [1]	606	6	50	994.2	1,016.3	+2.4	70.2	+.9	94	28	81	43	3	60	37	59	58	68	6.42	+2.3	2.41	9	10.4	s.	34	sw.	17	8	8	14	6.1	.0	.0	10
Des Moines [2]	860	5	99	984.8	1,015.6	+2.4	71.8	+1.2	97	16	82	44	3	62	28	53	60	72	6.02	+1.3	2.38	9	10.5	s.	36	n.	15	10	9	11	5.5	.0	.0	12
Dubuque	699	60	79	990.9	1,015.9	+2.4	69.4	.0	92	16	79	43	1	60	37	67	59	72	4.59	+.3	1.17	12	5.8	s.	18	nw.	16	10	9	11	5.7	.0	.0	12
Burlington [1]	702	4	36	990.9	1,015.9	+2.0	71.2	−.3	94	17	83	42	3	59	35	48	60	70	8.13	+3.4	3.41	9	10.5	s.	47	se.	15	10	8	12	5.4	.0	.0	12
Cairo	357	5	99	1,005.1	1,017.6	+2.7	78.0	+.7	98	16	88	53	4	68	28	5	.....	.....	3.01	−.8	2.94	4	8.3	sw.	34	s.	30	9	12	9	5.2	.0	.0	2
Peoria [1]	609	6	26	994.9	1,016.6	+2.4	70.4	+.5	91	10	81	43	3	60	35	46	59	70	7.41	+3.6	3.62	11	9.5	sw.	41	w.	12	8	11	11	5.7	.0	.0	11
Springfield, Ill. [2]	636	5	191	993.9	1,016.9	+2.7	74.6	+2.4	94	17	85	48	2	64	31	22	60	70	5.27	+1.2	2.85	10	11.1	s.	30	n.	11	9	13	8	5.6	.0	.0	10
St. Louis [2]	568	35	303	997.0	1,016.9	+2.7	76.3	+1.3	96	16	86	49	2	67	.....	19	.....	64	3.46	−.4	2.05	6	12.4	s.	32	s.	7	14	12	4	.....	.0	.0	5
MISSOURI VALLEY																																		
							73.0	+2.0										66	4.14	−0.2											4.7			
Columbia, Mo. [2]	784	6	66	988.5	1,016.3	+2.1	74.6	+1.2	95	16	85	44	4	64	29	30	60	68	2.23	−2.5	1.10	7	7.0	s.	24	ne.	1	19	9	2	3.3	.0	.0	9
Kansas City [1]	963	39	76	981.0	1,014.9	+1.7	76.2	+2.6	102	16	87	46	4	66	32	27	60	62	4.37	−.3	1.88	6	12.4	s.	34	nw.	28	14	9	7	5.0	.0	.0	5
St. Joseph [2]	967	11	49	980.7	1,014.6	.....	75.1	+1.4	101	16	86	46	4	64	30	33	62	66	4.22	−.7	1.72	6	9.0	s.	30	nw.	28	23	1	6	3.1	.0	.0	8
Springfield, Mo. [1]	1,324	5	67	970.5	1,016.9	+2.7	72.8	+1.1	93	17	84	45	4	62	29	30	62	74	2.35	−2.3	.86	5	11.3	s.	40	ne.	30	8	12	10	5.5	.0	.0	7
Topeka	987	65	87	980.0	1,014.9	.....	76.5	+3.1	104	15	88	46	3	64	32	26	61	64	6.24	+1.6	5.01	6	10.0	s.	31	sw.	15	8	11	11	5.3	.0	.0	6
Lincoln [2]	1,189	11	81	971.6	1,013.2	+.7	75.2	+3.8	109	15	87	45	3	63	34	44	58	62	4.02	−.3	1.66	5	10.7	s.	59	nw.	24	11	9	10	4.9	.0	.0	6
Omaha [1]	1,105	5	68	974.9	1,014.2	+1.3	73.4	+2.7	105	16	85	42	3	62	32	47	58	64	6.78	+2.2	3.27	7	12.7	s.	36	ne.	30	11	9	10	5.2	.0	.0	10
Valentine	2,598	46	54	923.5	1,013.9	+2.7	67.9	+1.0	103	15	81	37	2	55	39	97	50	59	3.45	+.6	1.89	6	10.5	s.	34	nw.	11	14	9	7	4.6	.0	.0	5
Sioux City [1]	1,138	5	40	973.2	1,013.9	+1.4	70.4	+1.6	106	16	82	39	3	58	37	72	58	70	4.04	.0	1.09	8	11.7	s.	47	w.	24	8	14	8	5.3	.0	.0	9
Huron [1]	1,301	5	41	967.5	1,013.9	+2.4	68.0	+1.8	100	10	81	32	2	55	38	86	56	68	3.75	.0	1.20	10	13.9	s.	45	nw.	30	12	12	6	5.3	.0	.0	8
NORTHERN SLOPE																																		
							62.2	+0.5										59	2.43	+0.2											5.8			
Billings [1]	3,570	16	40	891.3	1,013.5	.....	63.5	−1.4	90	22	76	42	2	51	37	91	46	61	1.49	.....	1.32	7	10.8	n.	45	nw.	6	6	13	11	6.1	.0	.0	8
Havre	2,507	11	67	926.2	1,014.6	+3.8	62.4	+.4	89	21	76	40	1	49	40	121	43	58	1.51	−1.4	.36	12	7.9	sw.	35	sw.	7	3	12	15	6.6	.0	.0	6
Helena [1]	4,124	5	43	874.0	1,014.6	+2.7	59.4	+.2	85	3	73	34	1	46	42	169	42	58	1.27	−.8	.47	11	8.7	w.	38	sw.	6	4	9	17	6.9	.0	.0	13
Missoula [1]	3,263	4	32	902.8	1,016.3	.....	59.1	−.5	86	3	73	32	7	45	42	186	40	58	1.38	−.6	.45	14	7.0	nw.	39	w.	14	4	14	12	6.6	.0	.0	8
Kalispell	2,973	48	56	912.0	1,014.2	+2.0	58.0	+.3	80	20	70	35	28	46	38	211	42	62	1.81	−.2	.59	12	6.0	w.	25	sw.	14	5	11	14	6.8	.0	.0	5
Miles City [1]	2,371	5	78	930.2	1,013.5	+2.7	65.0	.....	97	22	78	40	8	52	43	86	42	60	2.17	.....	.80	9	.....	se.	.....	.....	.....	.....	3	16	11	6.5	.0	.0	9
Rapid City [1]	3,259	5	63	901.8	1,013.9	+3.1	63.7	−.5	91	22	76	39	1	52	37	125	51	68	5.37	+2.3	3.17	12	13.4	s.	52	w.	10	11	11	8	5.2	.0	.0	10
Cheyenne [1]	6,094	5	40	814.1	1,011.9	+1.4	61.6	+1.2	89	15	76	34	19	47	41	148	41	56	1.25	−.4	.87	6	10.2	w.	38	w.	24	12	8	10	5.0	T	.0	7
Lander	5,352	60	68	835.8	1,012.9	+2.1	62.7	+2.2	89	15	78	38	2	47	41	115	34	42	1.67	+.5	1.52	3	8.3	sw.	38	sw.	24	15	11	4	3.9	.0	.0	2
Sheridan [1]	3,790	5	38	884.5	1,013.9	.....	61.7	+.2	93	22	75	38	19	48	41	137	48	64	5.24	+3.2	2.06	7	8.4	nw.	34	nw.	24	7	16	7	5.6	.0	.0	9
North Platte [2]	2,821	11	51	916.0	1,012.9	+1.7	70.4	+2.9	104	15	83	41	2	58	40	67	54	65	2.34	−.9	1.09	6	8.5	s.	41	nw.	17	14	9	7	4.6	.0	.0	8

See footnotes at end of table.

CLIMATOLOGICAL DATA FOR WEATHER BUREAU STATIONS FOR JUNE 1946—Continued

District and station	Elevation of instruments: Barometer above sea level	Elevation of instruments: Thermometer above ground	Elevation of instruments: Anemometer above ground	Pressure: Station	Pressure: Sea level	Pressure: Departure from normal	Temperature of the air: Mean	Temperature of the air: Departure from normal	Temperature of the air: Maximum	Temperature of the air: Date	Temperature of the air: Mean maximum	Temperature of the air: Minimum	Temperature of the air: Date	Temperature of the air: Mean minimum	Temperature of the air: Greatest daily range	Total degree days	Mean temperature of the dew point	Mean relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: Days with 0.01 inch or more	Wind: Average hourly velocity	Wind: Prevailing direction	Wind: Maximum velocity: Miles per hour	Wind: Maximum velocity: Direction	Wind: Maximum velocity: Date	Clear days	Partly cloudy days	Cloudy days	Average cloudiness, tenths	Total snowfall	Snow, sleet, and ice on ground at end of month	Number of days with thunderstorms
MIDDLE SLOPE	*Ft.*	*Ft.*	*Ft.*	*Mb.*	*Mb.*	*Mb.*	°*F.*	°*F.*	°*F.*		°*F.*	°*F.*		°*F.*	°*F.*		°*F.*	%	*In.*	*In.*	*In.*		*Mi.*								*0–10*	*In.*	*In.*	
							74.6	+2.1										59	2.24	−1.0											4.8			
Denver [3]	5,292	106	113	839.1	1,012.2	+1.7	69.2	+2.9	96	14	83	40	19	56	41	67	40	45	.87	−.5	.69	4	7.2	s.	24	ne.	26	11	12	7	4.7	.0	.0	7
Pueblo [1]	4,690	5	36	857.1	1,011.9	+1.7	72.4	+3.8	99	14	89	43	1	56	44	27	41	44	.23	−1.1	.12	4	8.8	se.	37	ne.	18	12	12	6	4.4	.0	.0	8
Concordia	1,392	50	58	964.8	1,013.2	+.7	76.6	+3.6	108	15	89	47	2	64	38	37	58	58	4.21	−.2	3.79	6	9.8	s.	26	s.	14	10	12	8	5.0	.0	.0	6
Dodge City [1]	2,509	5	58	927.2	1,012.9	+1.4	75.4	+2.9	104	15	89	43	2	62	38	40	56	58	1.27	−2.0	.54	6	18.6	s.	47	sw.	26	13	9	8	4.8	.0	.0	8
Wichita [1]	1,358	6	64	967.2	1,014.6	+1.7	76.3	+1.9	102	15	88	48	2	64	33	27	60	64	2.71	−1.7	1.58	6	15.9	se.	44	ne.	30	9	15	6	4.9	.0	.0	6
Oklahoma City [2]	1,214	10	47	972.9	1,015.2	+2.3	76.6	+.6	96	15	87	51	2	66	29	14	64	69	3.80	+.1	2.74	6	10.1	s.	27	n.	30	13	11	6	4.4	.0	.0	5
Tulsa [1]	674	10	60	992.2	1,015.9	.....	75.7	−.8	95	15	86	51	4	66	26	14	64	72	2.58	−1.9	.80	8	11.2	s.	42	s.	30	10	13	7	5.1	.0	.0	6
SOUTHERN SLOPE																																		
							78.2	+1.0										59	2.36	−0.2											4.5			
Abilene [1]	1,738	4	59	954.6	1,013.9	+2.0	79.2	+1.6	98	18	90	56	3	68	30	0	62	62	.51	−2.5	.28	6	15.8	s.	47	n.	26	8	15	7	4.9	.0	.0	3
Amarillo [1]	3,676	5	42	890.3	1,012.7	+1.9	74.8	+3.4	101	5	90	46	1	60	42	20	56	58	2.37	−.5	.72	9	16.7	s.	47	ne.	30	14	13	3	3.9	.0	.0	8
Del Rio	960	63	71	980.7	1,013.5	+2.7	81.0	−2.4	96	17	90	65	5	72	29	0	68	70	4.90	+2.4	4.24	5	10.6	se.	34	n.	19	6	16	8	5.8	.0	.0	4
Roswell	3,566	75	85	893.0	1,012.2	+3.1	77.9	+1.6	103	3	93	52	1	63	39	0	50	46	1.67	.0	.86	5	9.5	s.	34	ne.	2	14	15	1	3.4	.0	.0	7
SOUTHERN PLATEAU																																		
							80.5	+3.6										27	0.05	−0.3											2.1			
El Paso [1]	3,778	39	85	885.5	1,009.1	+1.6	82.6	+4.6	104	12	96	60	1	69	35	0	46	34	.20	−.4	.16	3	9.9	se.	47	n.	14	20	9	1	3.0	.0	.0	3
Albuquerque [1]	5,314	5	45	838.8	1,009.5	.....	77.5	+4.9	98	12	92	50	1	63	38	0	36	27	.07	−.4	.06	2	10.7	sw.	50	e.	30	19	10	1	2.9	.0	.0	5
Flagstaff	6,907	36	51	793.4	1,014.6	+6.1	63.1	+3.6	87	14	83	36	18	44	45	64	24	27	T	−.5	T	0	----	sw.	--	------	--	24	6	0	1.7	.0	.0	0
Phoenix [2]	1,107	39	87	970.2	1,008.1	+1.0	87.8	+3.3	109	5	104	66	19	71	37	0	42	26	.00	−.1	.00	0	6.8	w.	19	w.	17	24	6	0	2.1	.0	.0	0
Tucson [1]	2,555	5	39	923.5	1,008.8	.....	85.4	+2.8	107	4	102	61	1	69	39	0	36	20	.04	−.2	.04	1	----	w.	--	------	--	23	7	0	2.1	.0	.0	1
Yuma	142	9	54	1,003.1	1,007.8	+.7	86.8	+2.1	112	5	106	63	8	68	43	201	40	28	.00	.0	.00	0	5.3	w.	17	w.	10	27	3	0	1.0	.0	.0	0
MIDDLE PLATEAU																																		
							64.6	+1.4										36	T	−0.5											2.9			
Reno [1]	4,527	20	52	862.9	1,014.9	+3.7	60.4	−.7	95	30	81	32	6	40	53	150	34	46	.00	−.3	.00	0	9.0	w.	38	w.	23	21	8	1	2.5	.0	.0	1
Winnemucca	4,339	5	56	867.9	1,013.9	+2.0	63.8	+1.0	95	30	82	34	24	45	47	79	33	40	.01	−.7	.01	1	7.8	sw.	31	nw.	23	18	8	4	3.3	.0	.0	3
Modena	5,473	10	46	833.7	1,010.8	+1.0	65.4	+2.1	93	30	85	40	2	46	46	31	----	----	.00	−.3	.00	0	11.3	sw.	32	s.	22	23	7	0	2.0	.0	.0	0
Salt Lake City [1]	4,227	32	58	866.2	1,010.8	.0	69.0	+3.3	93	5	84	42	7	54	39	39	36	36	.01	−.7	.01	1	11.1	s.	39	w.	23	18	10	2	3.3	.0	.0	1
Grand Junction [2]	4,602	60	68	859.5	1,011.5	+1.3	74.4	.....	100	15	91	46	19	58	41	7	30	24	.07	.....	.07	1	7.4	se.	28	s.	17	17	8	5	3.6	.0	.0	1
NORTHERN PLATEAU																																		
							62.8	−0.5										52	0.87	−0.2											5.8			
Baker [2]	3,471	36	54	896.0	1,015.9	+1.7	57.9	−.7	88	20	72	36	24	44	41	225	40	62	.84	−.5	.30	9	5.7	n.	22	sw.	5	6	10	14	6.6	.0	.0	4
Boise [1]	2,739	5	49	918.7	1,013.2	+.3	65.4	+.9	91	21	80	39	24	50	40	59	38	44	.13	−.8	.13	1	9.5	nw.	37	s.	5	10	12	8	5.1	.0	.0	4
Pocatello [1]	4,478	5	31	862.9	1,013.5	+2.0	63.5	+2.0	89	22	79	35	7	48	44	84	36	43	1.30	+.2	.66	3	9.8	sw.	34	w.	23	12	13	5	4.8	.0	.0	1
Spokane [1]	1,929	27	42	947.2	1,015.6	+1.5	60.5	−2.3	89	20	73	38	7	48	37	159	43	60	1.08	−.2	.41	10	6.7	sw.	29	se.	13	6	6	18	6.9	.0	.0	2
Walla Walla	991	57	65	980.4	1,015.9	+1.3	65.2	−1.3	94	20	76	48	5	54	33	64	----	----	.98	−.1	.41	8	5.4	s.	29	w.	13	11	8	11	5.5	.0	.0	2
Yakima	1,076	58	67	976.6	1,015.6	.....	64.5	−1.9	94	20	76	42	10	53	33	88	----	----	.91	+.3	.39	8	6.6	nw.	26	sw.	13	5	12	13	6.0	.0	.0	2
NORTH PACIFIC COAST																																		
							59.3	−0.4										74	2.99	+1.3											6.9			
North Head	211	5	55	1,010.8	1,018.3	+2.7	55.5	+.7	63	11	60	48	26	51	12	282	51	86	4.54	+2.3	.73	22	14.0	s.	42	s.	8	1	8	21	7.9	.0	.0	0
Seattle [2]	125	90	321	1,013.2	1,018.0	+2.1	60.4	−1.0	83	1	68	48	10	53	30	151	50	74	2.26	+.9	.83	17	9.5	s.	27	sw.	8	6	10	14	6.3	.0	.0	2
Tacoma	194	172	201	1,010.8	1,017.6	+.7	58.8	+.1	77	1	66	45	10	51	25	185	----	----	3.52	+2.1	1.00	18	8.4	sw.	28	sw.	5	8	9	13	6.1	.0	.0	3
Tatoosh Island	86	9	61	1,014.9	1,018.3	+1.7	54.6	+1.6	64	1	59	47	23	51	15	310	50	86	7.81	+4.6	2.75	23	10.8	s.	32	e.	28	0	5	25	8.4	.0	.0	0
Medford [1]	1,329	29	58	969.5	1,016.9	.....	62.5	−3.3	100	19	76	39	10	49	47	116	44	57	.18	−.6	.12	3	----	nw.	--	------	--	9	11	10	5.4	.0	.0	1
Portland, Oreg. [2]	154	68	106	1,012.5	1,018.3	+1.0	61.8	−.6	88	19	70	50	10	54	29	119	50	74	2.00	+.5	.37	17	5.9	nw.	18	sw.	28	4	3	23	7.6	.0	.0	3
Roseburg	510	45	76	999.7	1,018.3	+1.7	62.1	−.4	93	19	74	42	10	51	37	117	48	66	.59	−.5	.24	8	4.8	n.	26	sw.	28	6	8	16	6.5	.0	.0	0
MIDDLE PACIFIC COAST																																		
							64.6	+0.4										64	0.09	−0.3											3.1			
Eureka	60	72	88	1,018.0	1,020.3	+2.7	56.8	+2.5	68	30	62	46	10	52	15	247	50	80	.30	−.4	.16	6	7.7	n.	22	sw.	28	9	10	11	5.6	.0	.0	1
Red Bluff [1]	353	5	20	1,001.7	1,014.2	.....	73.4	−1.4	103	19	87	53	6	59	38	0	42	38	.03	−.4	.03	1	8.8	se.	26	se.	4	16	13	1	2.8	.0	.0	1
Sacramento	66	92	115	1,012.9	1,015.2	+3.0	69.6	+.2	101	19	84	48	10	55	38	6	48	56	.00	−.2	.00	0	8.5	sw.	21	sw.	22	28	1	1	1.1	.0	.0	0
San Francisco [2]	155	112	132	1,012.2	1,018.0	+3.4	58.8	+.3	83	18	64	51	25	53	27	192	51	80	.02	−.2	.02	1	12.3	w.	29	w.	12	19	9	2	3.0	.0	.0	0
SOUTH PACIFIC COAST																																		
							70.4	+1.4										62	T	−0.1											3.2			
Fresno [1]	327	5	34	1,002.4	1,013.9	+3.1	74.6	−1.1	106	20	92	52	6	58	42	0	45	42	.00	−.1	.00	0	9.9	nw.	26	nw.	5	27	2	1	1.7	.0	.0	0
Los Angeles	338	223	250	1,002.0	1,014.2	+1.7	68.7	+2.3	85	5	79	56	13	58	28	0	55	70	T	−.1	T	0	8.5	sw.	21	sw.	10	18	11	1	3.6	.0	.0	0
San Diego [1]	87	20	55	1,011.2	1,014.2	+1.0	68.0	+3.0	80	17	75	58	10	61	19	0	58	74	.00	.0	.00	0	6.8	s.	17	sw.	26	9	17	4	4.9	.0	.0	0
PANAMA CANAL																																		
Balboa Heights (May)	118	6	92	.....	[3] 1,010.2	+.4	82.2	+1.4	96	12	89	72	23	76	18	0	74	[3] 83	2.39	−5.4	.56	15	5.6	nw.	21	nw.	10	0	17	14	7.2	.0	.0	3
Cristobal (May)	23	37	92	.....	[3] 1,010.5	.0	81.2	.0	90	31	85	71	22	78	14	0	75	[3] 83	5.38	−7.2	1.74	16	8.4	n.	24	ne.	8	0	17	14	7.6	.0	.0	3
ALASKA																																		
Anchorage [1]	132	6	44	1,012.2	1,017.3	.....	53.7	+.2	77	30	63	38	1	44	30	341	44	72	.74	.0	.31	4	5.8	nw.	19	sw.	18	9	7	14	5.9	.0	.0	0
Fairbanks [1]	455	5	63	997.0	1,013.9	.....	61.4	+3.0	86	8	74	41	12	49	36	121	48	66	1.49	+.1	.61	11	5.9	sw.	18	sw.	9	5	10	15	6.4	.0	.0	2
Juneau [1]	80	6	30	1,013.2	1,016.3	.....	56.8	.....	83	22	68	38	5	46	40	249	44	68	1.08	.....	.34	10	6.9	n.	27	e.	3	5	7	18	6.9	.0	.0	0
Nome	22	25	56	1,013.2	1,013.9	.....	44.0	−1.6	69	18	50	29	4	38	29	633	41	92	2.39	+1.3	.14	16	11.0	sw.	32	se.	7	2	7	21	8.1	.0	.0	0
Barrow	29	5	27	1,015.2	1,015.9	.....	34.0	−.6	53	14	38	19	1	30	21	932	33	98	.55	+.3	.37	7	12.5	e.	33	------	21	1	4	25	8.8	.1	.0	0
Ketchikan	75	69	90	1,015.6	1,016.6	.....	56.2	+1.5	75	28	63	43	5	49	26	263	49	78	2.53	−3.8	.81	17	6.3	se.	23	nw.	14	2	9	19	7.7	.0	.0	0
Kotzebue	20	5	31	1,013.2	1,013.9	.....	45.4	+1.9	73	20	52	31	9	39	28	588	40	84	.70	+.2	.....	9	9.8	se.	27	se.	12	3	7	20	7.9	.0	.0	0
McGrath	341	5	31	1,002.0	1,014.6	.....	57.1	+.2	80	28	67	42	9	47	33	237	44	68	1.92	+.1	1.14	12	----	s.	21	w.	21	3	7	20	7.6	.0	.0	1
Northway	1,718	5	32	952.3	1,014.9	.....	61.4	.....	82	8	73	43	2	50	32	115	47	63	1.35	.....	.....	7	5.5	nw.	19	------	7	1	15	14	7.0	.0	.0	5
Cordova	45	5	32	1,015.6	1,017.3	.....	52.2	.....	73	2	60	35	6	44	36	383	47	79	1.51	.....	.....	15	----	e.	18	se.	16	5	7	18	7.4	.0	.0	0
HAWAII																																		
Honolulu	38	86	100	1,015.6	1,016.9	.....	77.4	+.8	85	15	82	71	9	73	----	0	----	----	.67	−.2	.24	12	9.9	e.	24	ne.	5	5	20	5	5.4	.0	.0	0

[1] Data are airport records.

[2] Barometric data (adjusted to old city elevation) and hygrometric data from airport; otherwise city office records.

[3] Observations taken hourly.

[4] Pressure (adjusted to old city elevation), temperature, and hygrometric data from airport; otherwise city office records.

[5] Temperature and precipitation from city records, other data from airport.

NOTE.—Except as indicated by notes [1, 2, 4] and [3] data in table are city office records.

SEVERE LOCAL STORMS FOR JUNE 1946

[The table herewith contains such data as has been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the United States Meteorological Yearbook]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	June 1946						
West Virginia, western and northern counties.	2	A. m.			$1,324,246	Heavy rain	Much loss to matured and prospective crops and livestock; damage to roads and bridges.
Roswell, N. Mex., and vicinity.	2	2–5 p. m.			200,000	Heavy hail	Crop loss from 75 to 100 percent over area several miles square, east of Roswell.
Pondera County, Mont.	5	1:30 p. m., M. S. T.	1 2		2,000	Hail	Loss to mustard; path 25 miles long.
Minneapolis, St. Paul, and Victoria, Minn., and vicinities.	5	P. m.			86,000	Electrical and wind.	Property damaged by fire, $75,000; several silos blown down, and several barns moved from their foundations.
St. Paul, Minn.	5	do			2,000	Thundersqualls	3 large plate glass windows blown in; minor property damage.
Victoria, Minneapolis, and St. Paul, Minn., and vicinities.	5	do			70,100	Thunderstorm and heavy hail.	Much loss to growing crops; some cattle injured.
Blaine County, Mont.	5	do	1 5		2,000	Heavy hail and wind.	Loss to wheat.
Custer County, Mont.	5	do	1 3		2,000	Hail and wind	Alfalfa, wheat, and barley loss, $1,000, from wind; path 7 miles long.
North Dakota, central and southeastern portions.	6	10 a. m.–6 p. m.			60,000	High wind and hail.	About 200 barns and other farm buildings damaged or destroyed; silos, windmills, and automobiles damaged; loss to corn.
Wagner, Mont., vicinity of.	6	6 p. m., M. S. T.	1 2		2,500	Hail	Loss to sugarbeets; path 10 miles long.
Moose Lake and Barnum, Minn., and vicinities.	6	7–9:45 p. m.	1 5		125,000	Small tornado and hail.	About 41 town and country buildings demolished; others moved from their foundations or damaged. Many trees uprooted; poles and wires down. Much poultry and 100 head of cattle killed; 2 persons injured; path 25 miles long.
Cumberland, Wis.	6	9:15 p. m.			500	Electrical	Machine shed damaged; 3 cows killed.
Rusk, Sawyer, Price and Oneida Counties, Wis.	6–7	P. m.			43,500	Thunderstorm, wind, heavy rain, and hail.	Wind wrecked barns, damaged houses, broke trees, and disrupted utility service: loss, $37,000. Lightning destroyed a barn and contents, including 6 calves and some pigs; loss, $6,000. Crop loss from hail not estimated.
Froid, Mont., 6 miles east.	7	2 p. m., M. S. T.	200	1	12,500	Tornado	Farm building destroyed; spruce trees damaged; path 10 miles long.
Elmira, N. Y.	8	5:04–5:10 p. m.	2,640			Thundersquall	More than 400 trees felled, with resultant heavy damage to dwellings, communication and electric service lines, and parked automobiles. Damage not estimated.
Boston, Mass., and vicinity.	8	9–10 p. m.		3	250,000	Electrical, wind, heavy rain, and hail.	Damage confined to trees and power and utility lines. New England Telephone and Telegraph Co. reported 28,700 telephones out of order in an area almost as extensive as that of the 1938 hurricane. Boston Edison Electric Co. reported damage the heaviest in 60 years. The vicinity of Newton, Mass., directly west of Boston, was hardest hit. While over the entire area, extent of damage was much less than in 1938 and 1944 hurricanes, small areas reported greater damage than in the previous storms. 1 death due to falling tree; 1 by contact with live wire; and 1, at Swampscott, Mass., from drowning. Hailstones, estimated ¼ to ½ inch in diameter, broke windows and damaged vegetables and flower gardens. Several houses damaged by fire; 3 horses killed when barn burned in Hingham, Mass., after being struck by lightning. Heavy rain flooded streets to depth of 6 inches in Somerville, Mass.
Hartford, Conn., south-central portion.	8				600,000	Hail and wind	Damage principally to poles and wires and cloth covering tobacco plants. Much of the estimated loss represents cost of replacing tobacco cloth and incidental labor. Heaviest damage in vicinity of Windsor, Windsor Locks, and Suffield. Loss in tobacco plants small, as many had not been set out.
Glen Falls, N. Y.	8				15,000	Thundersquall	Trees uprooted and broken, resulting in heavy damage to telephone lines.
Worcester, Mass., and vicinity.	8				250,000	Electrical and wind.	Damage due to falling trees and broken utility wires. New England Telephone and Telegraph Co., reported more than 6,000 lines disrupted.
Arriba, Colo.	9	4:20–6 p. m.			1,000	Flash flood	5.10 inches of rain fell. Basements flooded; stored goods damaged or ruined; 2 persons injured by lightning.
Northampton County, Va.	9	4:30 p. m.	1 2		5,000	Heavy hail	Loss to crops.
Halifax, Va., 4 miles west.	9	5 p. m.	1,320		4,000	Hail	Loss to crops.
Wylliesburg, Va., 2 miles east.	9	7 p. m.	1 2		4,000	Heavy hail	Loss to crops.
Ramsey, Coffey, Douglas, Stearns, Wright, Hennepin, and Mower Counties, Minn.	9–10				173,900	Thundersqualls, hail, and rain.	Low street intersections and hundreds of basements flooded; creosote block pavements washed out; loss to growing crops; number of buildings destroyed by fire; large machine shop demolished. Damage from heavy rain, $50,000; from thundersqualls and hail, $12,900; property destroyed by fire, $101,000.
New Richmond, Wis.	10	12:20 a. m.			200,000	Electrical	Cereal plant offices and warehouses of Doughboy Industries, Inc., burned after plant struck by lightning.
Dawson County, Mont.	10	12:30 a. m., M. S. T.	1 5		3,000	Hail	Loss to wheat.
Ellsworth, Wis., and vicinity.	10	1:20 a. m.			10,000	Thundersquall and heavy hail.	2 barns and silos wrecked; trees blown down; utility service interrupted several hours.
Wibaux, Mont.	10	2:30–3 a. m., M. S. T.	1 2	0	25,000	Tornado	Little crop loss; 500 livestock lost; property damaged.
Crook County, Wyo.	10	8–10 p. m.	1 11		50,000	Hail	Principal loss to growing crops; minor damage to roofs and windows.
Hudson, Wis.	10				2,000	Wind	2 small airplanes at air field wrecked.
Syracuse, N. Y.	11	12:20–1:45 p. m.			10,000	Thundersquall	Wind velocities up to 45 miles per hour recorded. Trees uprooted and broken, causing damage to buildings and disrupting telephone, telegraph and electric services.
Auburn, N. Y.	11	1:30–1:50 p. m.			1,000,000	Thunderstorm and wind.	An estimated wind velocity of 75 miles per hour; the worst windstorm of history in the city. Between 2,000 and 3,000 trees felled. Only 3 city blocks open throughout their entire length. Houses and automobiles crushed by falling trees; some roofs blown off. Communication and electric lines broken and tangled. At times visibility was reduced to 20 or 30 feet because of heavy rains.
Graysville, Va., and vicinity.	11	3–4 p. m.	1 1		2,500	Wind and hail	Loss to corn, oats, gardens, and cabbage, from hail; corn and vegetables blown down; small house unroofed; path 5 miles long.
Waterloo, Ind., northeast of.	11	5:30 p. m.	900	0	20,000	Tornado	11 farms wrecked. Path southwest to northeast, 2 miles long.
Lake and Porter Counties, Ind.	11	7 p. m.			10,000	Wind	Trees and wires down; some buildings damaged.
Poughkeepsie, N. Y.	11	P. m.			25,000	Thunderstorm and wind.	Much damage to telephone lines from broken and uprooted trees.
Patrick County, Va., southwest corner.		do	1 2			Heavy hail	Much loss to tobacco and fruit.
Waynoka, Okla., vicinity of.	12	7 p. m.	1 2			Hail	Loss to 95 percent of ripening wheat. Estimate not given.
Lusk, Wyoming.	12	7:10–7:20 p. m.	1 2		127,500	do	Property damage, $125,000; loss to crops and livestock, $2,500.
Mansfield, Ohio, and vicinity.	12–13	8 p. m. 12th–4 a. m., 13th.			500,000	High winds and heavy rain.	Large areas in northern part of the city flooded, and operations curtailed in at least 6 industrial plants. Near Bangorville a barn and outbuildings demolished; at Shelby a home was damaged by lightning.
Indianapolis, Ind.	13	12:15 a. m.			55,000	Wind	Damage mostly in southwestern portion of the city; airplanes, trees, buildings, and wires damaged.

See footnote at end of table.

SEVERE LOCAL STORMS FOR JUNE 1946—Continued

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	June 1946						
Columbus, Ind., east of	13	Noon	[1] 2		$42,000	Wind and hail	75 percent of damage from hail; path 5 miles long.
Emporia, Va	13	6 p. m	440		5,000	Heavy hail	Much loss to crops in spots.
Halifax County, Va	13	do	[1] 1¼–2		50,000	do	Much loss to crops; soil washed away.
Ottertail County, Minn., southeastern portion.	13	7 p. m	1,320		10,000	Thunderstorm and hail.	Loss to growing crops; 1 person injured.
Columbia Furnace, Va	13	9 p. m	[1] 5		60,000	Hail and wind	Much loss to crops; damage to roofs and timber.
Toole County, Mont	14	3 p. m., M. S. T.	[1] 3		1,000	Hail	Loss to mustard; path 10 miles long.
Winifred, Mont	14	4:30 p. m., M. S. T.	[1] 2–4		34,000	do	Crop loss, $33,000; property damaged; path 30 miles long.
Camden, S. C	14	4:30 p. m			4,000	Heavy thunderstorm.	Crop loss, $1,000; property damage, $3,000. Excessive rain of 4.48 inches fell in less than an hour.
Chouteau County, Mont	14	5 p. m., M. S. T.	[1] 1		500	Hail	Loss to wheat and barley; path 3 miles long.
Duluth, Minn	14	8 p. m			2,500	Heavy rain and hail.	Thunderstorm over Duluth was accompanied by a severe local hailstorm in the Lakeside and Lester Park districts. Flash flooding and hail caused some property damage.
Ashland and Gretna, Nebr., and vicinities.	14	8 p. m., C. S. T.	[1] 6		310,000	Severe hail and wind storm with flooding rain.	Principal loss from hail to oats and wheat, $200,000; loss to livestock and poultry, $10,000. Damage to buildings and other property, $100,000.
Beemer, Nebr., and southward to border of Dodge County, Nebr.	14	6–6:45 C. S. T.	[1] 15		21,000	Heavy hail	Principal damage to oats and wheat; some loss to pigs and chickens.
Martin, Brown, Benville, and Pipestone counties, Minn., and vicinities.	14–15				60,500	Thundersqualls, electrical, and rain.	Food market in Fairmont destroyed by fire, with $20,000 damage. At Essig, a creamery was struck by lightning, with damage estimated at $20,500. Several farm buildings demolished; small buildings, machinery, granaries, and windmills damaged; corn lodged and trees uprooted: $10,000 loss. Lowlands inundated; highways and roads damaged; basements flooded; loss in growing crops: total damage from rain, $10,000.
Appleton, Wis., and vicinity	16	5 p. m	[1] 8		106,000	Thunderstorm and wind.	Plant of Appleton Supply Co., manufacturers, struck by lightning and burned; loss, $10,000. Wind wrecked or damaged garages, uprooted trees, and disrupted utility service overnight; loss $6,000.
Martin County, Minn., eastern portion.	16	5 p. m	[1] 2		10,000	Thundersqualls	Several small buildings demolished; farmhouse moved from its foundation; some loss to livestock and poultry.
Pocahontas, Iowa	16	5:30 p. m			10,000	Hail and wind	Much damage to orchard and ornamental trees, small farm buildings, and wires.
Kossuth County, Iowa, northern third.	16	7–8 p. m	[1] 8	0	695,000	Tornado and hail	Storm apparently originated in Minnesota. Hail fell in an area from 3 to 6 miles wide and over 20 miles long, causing $610,000 damage. A tornado appears to have developed in the center of the path. Trees and buildings damaged on at least 40 farms. Shade and orchard trees damaged, and at least 15 barns blown down, with loss of $40,000.
Mansfield, Ohio, and vicinity.	16	8 p. m				High wind and heavy rain	Hundreds of trees and public utility poles blown down; barn and small buildings demolished; basements flooded. Damage not estimated but reported to be in thousands of dollars.
Racine, Minn	16	8:22 p. m	167	0	15,000	Tornado	Schoolhouse and buildings on 2 farms demolished; buildings on 3 other farms damaged; farm machinery and windmills wrecked; livestock and poultry killed; trees uprooted and growing crops demolished.
Reedsburg, Wis., and vicinity.	16	11 p. m			6,000	Thundersquall	Winfield town hall and a barn blown down.
Center Creek, Minn., vicinity of.	16	P. m			2,000	Electrical	Barn struck by lightning and burned.
Spring Grove, Minn., and vicinity.	17	1 a. m	[1] 2		30,000	Thunderstorm and hail.	Heavy hail caused much damage to property and growing crops; leaves stripped from trees; much poultry perished.
Delta to Paonia, Colo	17	2 p. m			50,000	Hail and wind	Hail the size of marbles stripped leaves and fruit from trees and beat tomatoes and potatoes into the ground; windows in greenhouses and homes broken; roofs damaged. Basements of some stores and homes flooded.
Delhi to Model, Colo	17	5 p. m	[1] 5		3,000	Hail and wind	Roofs, windows of cars, and buildings damaged.
Detroit, Mich	17	5:55–6:05 p. m		0	1,000,000	Tornado	35 injured, none seriously. 6 flimsy houses and a condemned church demolished; church, school, and several business establishments in a block unroofed or otherwise damaged. Warehouse on water front, stocked with surplus war materials, badly damaged. Path 2¼ miles long.
Blencoe, Iowa	17	6:30 p. m	1,000		39,000	Hail and wind	Windows broken; loss in crops.
Pottawattamie County, Iowa.	17	7:30 p. m			50,000	Rain, flood, and wind.	Loss to crops, $40,000; property damage, $10,000, from flooding.
Woodbine, Persia, and Yorkshire, Iowa.	17	do	[1] 4		200,000	Hail, wind, and rain.	Buildings demolished on 2 farmsteads. Much crop loss in an area 1 mile wide and 8 miles long
Boone County, Nebr., southern portion.	17	7:45–8:45 p. m., C. S. T.	[1] 7–8		400,000	Wind and rain	Principal damage to growing oats and corn; barley and wheat damaged to lesser extent. Property damaged.
Carlisle, Pa	17	P. m			10,000	Electrical	Barn, implements, and feed burned when struck by lightning.
Milford, Nebr., vicinity of	17–18	During night			63,000	Severe wind	6 barns blown down; crop loss, $10,000; turkeys killed, $300; property damage, $50,000.
Villegreen, Colo	18	4 p. m	[1] 3		30,000	Hail	Hailstones ranged from marble to hen-egg size and caused $20,000 loss in wheat and killed 800 newly sheared sheep valued at $10,000.
Creston, W. Va., vicinity of	19				4,200	Heavy rain	Property damaged; loss to crops.
Northumberland County, Va.	21	3 p. m	[1] 3		5,000	Hail	Considerable damage to early tomatoes; loss to small grain.
Westmoreland County, Va	21	3–4 p. m	[1] 1		3,000	Heavy hail	Considerable loss to standing grain and tomatoes; path 1 mile long.
Toole County, Mont	22	5 p. m., M. S. T.	[1] 5–10		1,000,000	Heavy hail	Loss to wheat, oats, and barley; buildings damaged.
Wausau, Wis	23	11:03 a. m			5,000	Thundersquall	2 airplanes wrecked and 11 damaged at the airport.
Cascade County, Mont., eastern portion.	23	5–7 p. m., E. S. T.	[1] 1		50,000	Hail	Total loss of grain and hay over a path 10 miles long.
Hettinger, Adams, and Bowman Counties, N. Dak.	23	9 p. m., M. S. T.				Severe hail storm	About 90 percent crop loss in a narrow strip.
Selfridge, N. Dak	23	do		0	85,000	Tornadoes	Both tornadoes moved from west-southwest to east-northeast. One was 1 mile north of Selfridge, the other 2½ miles south. 4 persons were injured. $79,000 damage to buildings, machinery, automobiles, and poultry. Crop loss, $6,000.
North Ironwood to Bessemer, Mich.	23	10:30 p. m	880		25,000	Squall	Grandstand roof of Bessemer High School Athletic Field blown away. 8 large barns destroyed; 12 others and some outbuildings damaged.
Fallon County, Mont	23	P. m	[1] 1		75,000	Hail	Loss to grain and gardens; path 20 miles long.
Thermopolis to Hyattville, Wyo.	24	8 to 10 a. m	[1] 10		75,000	Floods	Damage to roads, bridges, and irrigation ditches; loss to crops and livestock.
International Falls, Minn	24	3:20–5:20 p. m., C. D. S. T.			30,000 40,000	Thunderstorm and wind.	House moved; 2 under construction demolished. Small house pushed across street; porch torn off. Garage carried away; shingles torn off one building and part of roof from another. Telephone poles and trees broken. Trees uprooted or stripped of upper branches. Several injured persons required medical attention. Path, about 4 city blocks wide, lay in a southwest-northeast direction. Debris was carried and trees fell in same direction.

See footnote at end of table.

SEVERE LOCAL STORMS FOR JUNE 1946—Continued

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	June 1946						
Minneapolis-St. Paul, Minn., and vicinities.	24	5:06 p. m.			$40,000	Thundersqualls	Number of plate glass windows blown in; signs and awnings torn away; automobiles wrecked; streetcar damaged by uprooted trees; utility poles and wires down.
Doniphan, Nebr., vicinity of.	24	6 p. m., C. S. T.	[1]3–6		250,000	Heavy hail	Principal loss to wheat, oats, and barley; some damage to roofs and cars.
Ellsworth, Wis.	24	6–6:10 p. m.			15,000	Squall	Trees uprooted and broken; greenhouse and residence damaged by falling trees; other homes and barns damaged.
Lincoln, Nebr.	24	9–9:15 p. m., C. S. T.	[1]4		150,000	Severe wind, electrical, and rain.	Property damaged; many power and telephone lines down.
Big Stone, Jackson, Martin, Kandiyohi, Blue Earth, Hennepin, and Ramsey Counties, Minn.	24	P. m.			108,000	Thundersqualls	Number of city and farm buildings unroofed, moved from their foundations, or otherwise damaged; 200 feet of concrete wall blown down; poles, wires, street lights, signs, and awnings down; hundreds of trees uprooted; some livestock and much poultry perished; grain lodged; some loss to growing crops.
St. Louis County, Minn.	24				750,000	Heavy rain	Highways and roads damaged; basements flooded; lowlands inundated; many bridges, culverts, and railroad tracks washed out; growing crops damaged.
Clinton, Okla., vicinity of.	25	9:30 p. m.	[1]10		10,000	do	Much loss due to washing under of cotton; considerable soil erosion; path about 20 miles long.
Fort Cobb and Carnegie, Okla., vicinities of.	25–26	11:30 p. m.–2 a. m.	[1]2–3			Wind, rain, hail, electrical.	Much loss to early corn and cotton; several farm buildings damaged by wind; barn destroyed by fire due to lightning. Amount of loss not estimated.
Fort Gibson, Okla., vicinity of.	26	1 a. m.	[1]2½		20,000	Heavy rains	No details.
Stratton, Nebr., vicinity of.	26	5:30 p. m., M. S. T.	[1]2		60,000	Moderate to heavy hail.	Principal loss to wheat.
Brainerd, Minn., and vicinity.	26	6:40 p. m.	[1]11		61,500	Hail and thundersqualls.	Much loss to growing crops; considerable property damaged; much poultry and some livestock killed; branches torn from trees. Hangar and uncompleted building at airport demolished; silos wrecked; lake cottages, boats, and docks damaged; trees uprooted.
Cowden, Okla., and vicinity	26	6:45 p. m.	440	0	52,500	Tornado	School gymnasium, several houses, and 2 business houses destroyed.
Sebeka, Minn., and vicinity	26				74,500	Rain and flood	Many basements flooded; lowlands inundated; roads and highways damaged; railroad tracks washed out; loss to growing crops.
Wheatland County, Mont.	26		[1]1		1,200	Hail	Loss to hay and grain over a 50-mile path.
Mandan, N. Dak., 15 miles west.	27	3a. m., C. S. T.	[1]1		42,000	Severe hail	Strip 1 mile wide and 15 miles long, extending from Youngstown southeastward, suffered 100 percent crop loss. Hail was piled in drifts 3 to 4 feet deep. Hail damage in Burleigh County extended in a narrow strip from Bismarck southeastward about 20 miles. Ramsey County also reported damage.
Youngstown, Ohio	27	2 p. m.				Heavy rain, electrical.	Downtown streets and thousands of basements flooded. Several fires caused by lightning. Loss said to be several hundred thousand dollars.
Detroit, Mich.	27	3:30–3:33 p. m.	88	0	250,000–500,000	Tornado	Damage to bus and trailer garages, manufacturing company, warehouse, and to parked cars. 9 persons injured, none seriously. Path 176 yards long.
Carlsbad, N. Mex., and vicinity.	27	3:30 p. m.			60,000	Heavy hail	Storm severe; no details.
Fallon County, Mont.	27	4:30 p. m., M. S. T.	[1]2		200,000	Hail	Loss to wheat, barley, flax, and corn; path 10 miles long.
Polk, Red Lake, and Pennington Counties, Minn.	28	2:30 a. m.	[1]15		432,000	Possible tornado	A flax manufacturing plant, large school, garage, farm home, about 66 barns, and 40 outbuildings demolished; 110 houses, 135 barns, 55 outbuildings, 40 silos, a municipal sewage disposal plant, and an airplane damaged. Poles and wires down; trees uprooted; several thousand turkeys and chickens perished. 4 persons injured.
Rochester, Minn., and vicinities.	28	12:28 p. m.			5,000	Thundersqualls	House moved from its foundation and toppled; windmill wrecked; automobile damaged by falling tree; many trees uprooted; poles and wires down. 1 person injured.
Spring Grove, Pa.	28	1–3 p. m.			20,000	Thunderstorm and hail.	Much loss to crops.
Salt Creek Oil Field, Wyo., vicinity of Midwest, Wyo.	28	5:30–6 p. m.	[1]5		15,000	Wind	14 oil derricks blown down; roof of large machine shed damaged.
Golden Valley County, Mont.	28	8:25 p. m., M. S. T.			20,000	Hail and wind	Much crop loss.
Weatherford, Okla., vicinity of.	28–29	12 p. m.			25,000	Wind, rain, and flood.	House and barn demolished by high winds; $15,000 damage to bridge due to flooding; path narrow and 20 miles long.
Milwaukee, Wis.	29	A. m.			4,600	Electrical	Building struck by lightning and burned.
Model to Earl, Colo.	30	3 p. m.	[1]5		100,000	Hail and wind	Extensive loss to small grains.
Vineland, Colo.	30	3 p. m.	[1]4½		600,000	Hail and wind	Loss to seed crops, beets, and corn; damage to buildings from wind.
Avondale, Colo., and vicinity.	30	4 p. m.	[1]1		100,000	Hail	Loss to melons, cucumbers, sugarbeets, and small grains.
Manzanola, Colo.	30	4:30 p. m.	[1]1½		10,000	do	Loss to truck: some poultry killed.
Beaver, Okla., vicinity of.	30	5 p. m.			5,000	High winds	Damage to roofs and trees.
La Junta, Colo.	30	5:20 p. m.			100,000	Hail	Loss to wheat and truck; damage to buildings.
Arnett, Okla., vicinity of.	30	5:30 p. m.				High winds	Small buildings and trees damaged; much fruit blown from trees. Amount of damage considerable, not estimated.
Rocky Ford, Colo.	30	6 p. m.	[1]1		100,000	Hail	80 to 100 percent loss to small grains and melons.
Pueblo, Colo., 9 miles north.	30	P. m.			5,000	do	Loss to wheat and truck.

[1] Miles instead of yards.

LATE STORM REPORTS FOR MAY, 1946

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks
	May 1946						
Martin City, Grandview, and Holmes Park, Mo.	23	6:25–6:35 p. m.	440–553	2	$290,000	Tornado	Storm passed north-northeastward from Martin City, destroying a silo and a barn, and partially destroying another barn. Large house, barn, and an 80-foot, 200-ton masonry silo torn to bits. Chicken house destroyed, with some chickens killed. 100 or more maple trees uprooted or broken off. The tornado passed over farmland, causing little damage except to trees and telephone lines, toward Holmes Park, where it hit with full force. Many buildings in area completely destroyed, others damaged. One man injured. Funnel cloud and accompanying roar noted by many persons; distribution of debris clearly showed rotary winds.
Barry to Gashland, Mo., and vicinities.	23	7:30 p. m.		0	5,000	do	The tornado originated a short distance southwest of Barry, Mo., and moved northeastward for a distance of about 5 miles. In Barry several small trees down; small dwelling lifted from foundation; porch torn from another house; several other houses and a garage damaged; chicken house blown over and chickens killed. About 880 yards north of Gashland, the storm moved northeastward to a farmstead, where it caused other property damage. It then moved on across the country northeastward, blowing down and damaging trees.

SOLAR RADIATION AND SUNSPOT DATA FOR JUNE 1946

[Solar Radiation Investigations Section, I. F. HAND in Charge]

SOLAR RADIATION OBSERVATIONS

Explanations of the tables and references to descriptions of instruments, stations, and methods of observations and to summaries of data, are given in January 1944 MONTHLY WEATHER REVIEW, page 43. A list of pyrheliometric stations is given on page 45 of the same REVIEW.

TABLE 1.—*Solar radiation intensities during June 1946*

[Gram calories per minute per square centimeter of normal surface]

Date	Sun's zenith distance										
	7:30 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p.m.
	75th mer. time	Air mass									75th mer. time
		A. M.				*1.0	P. M.				
	e.	5.0	4.0	3.0	2.0		2.0	3.0	4.0	5.0	e.
MADISON, WIS.											
	mb.	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*mb.*
June 3	8.1	0.76	0.86	0.99	1.16	1.38	------	------	------	------	8.1
June 4	8.7	.73	.84	.95	1.13	1.37	------	------	------	------	7.8
June 5	10.2	------	.74	.84	1.04	1.24	------	------	------	------	7.4
June 8	14.8	.52	.65	.77	1.01	1.20	------	------	------	------	12.3
June 13	12.7	.57	.68	.81	1.01	1.24	------	------	------	------	12.7
June 22	14.8	.64	.74	.84	1.02	1.22	------	------	------	------	16.5
June 26	19.0	.63	.73	.86	1.04	1.24	------	------	------	------	20.4
June 28	22.6	.35	.41	.54	.84	1.11	------	------	------	------	23.4
June 29	22.6	.35	.42	.57	------	------	------	------	------	------	21.8
Means	------	.57	.67	.80	1.03	1.25	------	------	------	------	------
Departures	------	−.08	−.12	−.12	−.01	−.07	------	------	------	------	------
LINCOLN, NEBR.											
June 6	16.9	------	------	------	------	1.26	0.79	0.58	0.43	0.35	14.6
June 12	16.9	------	------	------	------	1.24	1.06	.92	.77	.67	15.3
June 13	15.8	------	------	------	------	1.27	.95	.77	------	------	13.2
June 15	21.1	------	------	------	------	1.25	.88	------	------	------	15.8
June 20	9.8	------	------	------	------	1.34	1.12	.95	.79	.71	13.7
June 21	14.2	------	------	------	------	1.29	1.01	.84	.71	.58	16.4
June 25	15.8	------	------	------	------	1.35	1.12	.97	.84	.75	18.3
June 27	21.1	------	------	------	------	1.26	.99	.82	.69	.60	20.4
Means	------	------	------	------	------	1.28	.99	.84	.70	.61	------
Departures	------	------	------	------	------	−.07	−.10	−.06	−.07	−.04	------

SOLAR RADIATION OBSERVATIONS—Continued

TABLE 1.—*Solar radiation intensities during June 1946*

[Gram calories per minute per square centimeter of normal surface]

Date	Sun's zenith distance										
	7:30 a.m.	78.7°	75.7°	70.7°	60.0°	0.0°	60.0°	70.7°	75.7°	78.7°	1:30 p.m.
	75th mer. time	Air mass									75th mer. time
		A. M.				*1.0	P. M.				
	e.	5.0	4.0	3.0	2.0		2.0	3.0	4.0	5.0	e.
BLUE HILL, MASS.											
June 3	11.5	0.92	1.01	1.13	1.26	1.43	------	------	------	------	11.2
June 4	12.2	------	------	------	.96	------	------	------	------	------	14.1
June 6	12.3	.81	.92	1.06	1.20	1.38	------	------	------	------	9.4
June 7	13.7	.40	.49	.68	.92	1.18	------	------	------	------	16.4
June 8	16.8	------	.17	.39	.53	1.13	0.71	------	------	------	21.5
June 9	15.0	------	------	------	------	------	1.19	------	------	------	8.9
June 10	7.2	.90	1.00	1.14	1.28	1.40	1.11	0.94	0.86	------	8.6
June 11	11.8	.73	------	------	------	------	------	------	------	------	17.1
June 12	18.9	------	------	------	------	------	.92	.70	------	------	21.3
June 14	10.1	.78	.90	1.00	1.11	1.43	------	------	------	------	11.3
June 15	11.4	------	------	------	------	1.44	1.18	1.03	.87	0.74	8.2
June 16	9.3	------	------	------	1.00	1.30	.98	------	------	------	13.2
June 17	9.3	.76	.88	.92	.99	1.20	------	------	------	------	17.8
June 19	7.2	.87	.98	1.09	1.27	1.51	1.17	1.02	.92	.80	7.3
June 20	8.8	------	------	1.10	1.24	------	------	1.01	------	------	12.3
June 23	14.4	------	------	------	------	1.32	1.03	.80	.64	.53	14.7
June 24	16.7	.56	.73	.87	1.05	------	1.02	.75	.68	.55	15.6
June 25	18.0	------	.47	------	.93	1.23	------	.90	.78	.70	16.7
June 26	23.6	------	------	------	------	1.20	------	------	------	------	21.8
June 27	21.3	.37	.46	.56	.75	------	.64	.36	------	------	24.2
June 28	23.1	.31	.38	.52	.77	------	.87	.63	------	------	21.8
June 29	20.1	.47	.56	.71	.93	1.24	.78	.70	.56	.42	19.3
Means	------	.66	.69	.86	1.01	1.31	.97	.80	.76	.62	------
Departures	------	+.01	−.06	−.03	−.03	+.01	−.07	−.04	+.08	+.06	------
BOSTON, MASS.											
June 7	13.7	------	0.55	0.69	0.90	------	------	------	------	------	16.5
June 14	9.8	------	.81	.96	1.01	------	------	------	------	------	10.6
June 24	17.7	------	.71	.90	1.03	------	------	------	------	------	14.8
June 27	20.3	------	.48	.59	.78	1.00	------	------	------	------	23.4
June 28	21.8	------	.32	.47	.70	------	------	------	------	------	22.6
Means	------	------	.57	.72	.88	(1.00)	------	------	------	------	------
Departures	------	------	.00	+.06	+.03	−.02	------	------	------	------	------
RATIO, BOSTON/BLUE HILL, ON COMPARABLE DATES											
	------	------	0.97	0.99	0.96	------	------	------	------	------	------

*Extrapolated.

TABLE 2.—*Daily totals and weekly means of solar radiation (direct+diffuse) received on a horizontal surface*

[Gram calories per square centimeter]

Date	Washington, D.C.	Madison, Wis.	Lincoln, Nebr.	East Lansing, Mich.	New York, N. Y.	Fresno, Calif.	Fairbanks, Alaska	Columbia, Mo.	Boston, Mass.	Nashville, Tenn.	Twin Falls, Idaho	La Jolla, Calif.	Riverside, Calif.	Blue Hill, Mass.	Newport, R. I.	State College, Pa.	Put-in-Bay, Ohio	Davis, Calif.	Boulder, Colo.	Tooele, Utah	New Orleans, La.	Toronto, Canada	Ithaca, N. Y.
1946	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*	*cal.*
June 4	400	722	590	556	123	712	656	812	213	711	690	279	697	216	312	551	676	802	747	922	708	552	656
June 5	660	585	667	626	546	723	651	780	309	673	446	484	704	308	527	636	767	822	757	892	706	615	695
June 6	392	643	680	381	385	736	687	737	555	672	679	681	730	622	688	198	522	825	698	917	586	272	175
June 7	649	297	459	367	427	738	623	752	457	624	701	635	682	533	601	618	426	807	708	913	332	384	374
June 8	687	752	734	582	557	703	604	533	491	598	701	620	600	571	607	684	517	828	653	775	204	404	505
June 9	693	719	617	671	707	684	361	710	690	534	684	651	650	------	746	793	773	788	545	898	484	739	700
June 10	724	380	690	125	675	483	294	767	699	635	638	691	641	------	763	698	502	646	503	864	614	455	705
Means	601	585	634	473	488	683	554	727	488	635	648	577	672	558	606	597	597	788	659	883	519	489	544
Departures	+89	+74	+125	+42	−5	+3	+53	+220	+17	+104	+70	+48	+135	+32	+53	+92	+57	+56	+159	+106	+38	------	+25
June 11	695	454	609	332	502	738	314	748	450	589	381	686	608	488	555	539	419	816	------	809	490	500	307
June 12	313	311	665	263	327	736	539	624	274	517	626	703	683	274	331	387	274	830	------	884	710	640	734
June 13	432	729	710	639	430	733	503	694	216	613	552	640	674	242	300	465	561	828	587	972	502	689	699
June 14	233	693	592	642	200	739	612	706	641	268	639	581	658	702	611	114	811	833	732	904	519	686	776
June 15	320	199	693	442	667	727	400	402	654	624	703	626	632	720	701	353	632	844	518	926	475	676	725
June 16	749	563	684	444	614	747	499	764	620	607	699	635	668	705	749	580	562	814	386	916	466	509	706
June 17	504	198	341	318	215	739	578	688	619	611	504	674	695	642	635	390	360	848	176	629	617	313	300
Means	464	450	613	440	422	737	492	661	496	547	586	649	660	539	555	404	517	830	480	863	540	573	607
Departures	−39	−51	+74	−30	−60	+39	−16	+115	+36	+3	−28	+110	+83	+53	+54	−46	−38	+60	−53	+35	+68	------	+102
June 18	490	134	257	146	262	711	411	638	114	603	639	681	662	145	148	385	109	850	52	764	------	510	195
June 19	68	241	208	459	359	726	547	326	695	581	672	522	673	768	774	74	348	798	351	863	614	752	788
June 20	146	212	677	131	218	698	693	771	666	484	673	467	590	694	628	170	350	819	765	892	323	140	224
June 21	266	519	732	321	233	718	681	775	294	609	379	351	491	319	375	460	495	823	620	861	326	374	557
June 22	698	732	668	653	515	719	468	713	413	562	616	666	642	423	468	410	753	834	616	903	284	494	277
June 23	749	676	665	621	666	741	147	793	672	714	407	690	583	714	711	765	657	790	512	791	------	657	790
June 24	715	582	294	530	580	723	536	635	635	540	734	716	663	677	676	675	663	798	800	940	------	530	631
Means	448	442	500	409	405	720	498	664	498	585	588	585	615	534	540	420	482	816	531	859	------	494	495
Departures	−55	−94	−79	−99	−84	+8	−40	+81	+59	+21	−76	+1	+14	−3	−11	−111	−100	+50	−31	+22	------	------	−8
June 25	688	636	736	569	577	721	616	592	611	580	694	618	656	681	682	691	710	801	754	902	283	630	679
June 26	687	674	712	542	508	734	614	588	581	640	692	617	690	560	607	597	684	796	480	875	283	448	787
June 27	508	649	692	577	584	733	601	738	578	576	715	645	682	630	684	588	622	798	490	797	296	580	397
June 28	579	661	414	394	415	725	326	662	517	515	610	615	554	593	716	451	528	795	586	857	317	591	593
June 29	421	549	592	512	403	706	626	474	631	566	702	612	593	660	675	442	578	813	591	894	205	590	519
June 30	396	271	673	531	391	703	633	270	440	521	688	540	621	395	525	638	593	777	496	879	673	624	760
July 1	335	753	729	604	341	687	412	------	412	300	389	234	560	300	433	477	435	774	366	559	484	347	562
Means	516	599	650	533	460	717	547	------	538	528	642	555	636	545	618	555	593	793	538	823	363	544	614
Departures	−16	+55	+60	+21	−24	+15	+82	------	+83	−20	+11	+19	+43	+47	+67	+13	−6	+21	−30	0	−79	------	+111

ACCUMULATED Ddepartures ON JULY 1, 1946

	−42	+1,974	−1,015	+903	−5,502	+3,388	------	------	+812	+105	−749	------	−1,666	−217	+630	−126	------	+10,402	+2,814	−2,604	------	------	------

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR JUNE 1946

By LUCY T. DAY

[Equatorial Division, U. S. Naval Observatory]

[Communicated by the Superintendent, U. S. Naval Observatory.] All measurements and spot counts were made at the Naval Observatory from plates taken at the observatories indicated. Difference in longitude is measured from the central meridian, positive toward the west. Latitude is positive toward the north. Areas are corrected for foreshortening and expressed in millionths of Sun's hemisphere. For each day, under Mount Wilson group number, longitude, latitude, areas of spot of group, and spot count, are included respectively: number of groups, assumed longitude of center of the disk, assumed latitude of center of the disk, total areas of spot and groups, and total spot count.

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1946	h m		°	°	°	°				
June 1	10 14	8068	−54	154	+16	57	61	3	G	U. S. Naval.
		8068	−50	158	+15	53	97	4		
		8065	+7	215	−18	17	48	10		
		8065	+11	219	−19	20	48	2		
		(2)		(208)	(−1)		254	19		
2	11 9	8068	−40	154	+16	44	48	3	G	Do.
		8068	−37	157	+15	41	97	7		
		8065	+19	213	−19	25	48	5		
		8065	+21	215	−18	27	48	5	5	
		8065	+23	217	−20	28	24	1		
		8069	+47	241	−33	54	4	4		
		(3)		(194)	(−1)		269	25		
3	11 21	8068	−27	154	+16	32	48	10	G	Do.
		8068	−24	157	+15	28	97	2		
		8065	+31	212	−18	36	48	2		
		8065	+36	217	−18	40	24	7		
		8065	+37	218	−19	41	24	1		
		(2)		(181)	(0)		241	22		
4	11 25	8068	−15	152	+17	23	24	2	P	Do.
		8068	−11	156	+15	19	121	1		
		8065	+45	212	−18	47	12	2		
		8065	+50	217	−19	52	48	2		
		(2)		(167)	(0)		205	7		
5	11 12	8072	−68	86	+18	70	12	2	G	Do.
		8071	−67	87	−24	69	12	2		
		8071	−63	91	−23	65	12	3		
		8070	−63	91	+19	65	48	1		
		8073	−59	95	−16	60	12	1		
		8068	−1	153	+17	17	12	1		
		8068	+3	157	+14	15	97	6		
		8065	+65	219	−20	67	12	1		
		(6)		(154)	(0)		217	17		
6	15 34	8072	−54	85	+18	57	6	1	F	Do.
		8071	−48	91	−23	52	97	2		
		8070	−45	94	+19	49	48	1		
		8074	−10	129	−26	28	61	1		
		8074	−7	132	−25	27	48	1		
		8068	+18	157	+14	23	73	2		
		(5)		(139)	(0)		333	8		
7	10 47	8075	−57	71	−14	58	12	2	G	Do.
		8072	−44	84	+18	47	12	4		
		8071	−37	91	−23	42	36	1		
		8071	−35	93	−23	41	48	1		
		8070	−35	93	+19	40	36	1		
		8074	+1	149	−27	27	145	2		
		8074	+5	133	−25	26	97	11		
		8068	+29	157	+14	32	48	3		
		(6)		(128)	(0)		434	25		
8	10 6	(*)	−58	57	−9	58	12	1	G	Do.
		8075	−44	71	−14	47	12	1		
		8072	−32	83	+18	37	12	2		
		8071	−22	93	−23	32	61	10		
		8070	−22	93	+19	29	12	1		
		8074	+13	128	−27	30	145	1		
		8074	+17	132	−26	32	48	13		
		8068	+41	156	+14	43	12	1		
		(7)		(115)	(0)		314	30		

See footnotes at end of table.

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POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR JUNE 1946—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1946	h m		°	°	°	°				
June 9	9 15	8078	−42	60	−12	44	6	1	G	Mt. Wilson.
		8075	−30	72	−13	33	6	1		
		8072	−18	84	+17	24	48	20		
		8072	−17	85	+17	23	61	7		
		8071	−11	91	−23	27	12	8		
		8073	−9	93	−16	18	6	1		
		8070	−9	93	+18	20	6	1		
		8071	−8	94	−23	25	24	12		
		8077	+4	106	+9	10	6	4		
		8074	+27	129	−26	38	121	1		
		8074	+33	135	−25	40	12	7		
		8076	+43	145	+23	49	24	6		
		(9)		(102)	(0)		332	69		
10	11 24	8072	−7	81	+18	20	48	9	F	U. S. Naval.
		8072	−3	85	+18	18	121	2		
		8071	+8	96	−22	24	6	3		
		8074	+40	128	−27	47	145	1		
		(3)		(88)	(0)		320	15		
11	11 5	8079	−2	73	+17	16	12	1	G	Do.
		8072	+9	84	+18	19	48	11		
		8072	+11	86	+18	20	145	2		
		8071	+17	92	−24	31	73	4		
		8074	+52	127	−27	58	109	1		
		(4)		(75)	(+1)		387	19		
12	9 45	8083	−80	342	+18	80	291	3	G	Mt. Wilson.
		8082	−15	47	−14	21	16	16		
		8072	+23	85	+18	28	24	15		
		8072	+25	87	+18	30	145	10		
		8071	+29	91	−24	38	73	6		
		8071	+31	93	−24	40	48	23		
		8081	+39	101	+14	41	6	1		
		8081	+41	103	+11	42	12	3		
		8080	+45	107	+26	50	24	8		
		8080	+47	109	+25	51	24	3		
		8074	+65	127	−26	68	121	3		
		(6)		(62)	(+1)		784	91		
13	10 48	8083	−68	341	+18	70	267	5	F	U. S. Naval.
		8082	−1	48	−14	15	73	4		
		8072	+37	86	+18	40	145	4		
		8071	+43	92	−25	49	12	3		
		8071	+47	96	−24	51	12	2		
		8080	+57	106	+28	61	12	1		
		8080	+61	110	+25	63	48	2		
		(5)		(49)	(+1)		69	21		
14	11 53	8087	−88	307	+25	88	194	2	P	U. S. Naval.
		8088	−87	308	+31	87	97	3		
		8086	−80	315	+18	80	388	1		
		8083	−53	342	+18	55	218	6		
		8083	−51	344	+16	53	24	1		
		8084	−18	17	−20	27	12	2		
		8082	+11	46	−13	18	24	1		
		8072	+53	88	+17	55	61	1		
		8071	+61	96	−25	68	12	1		
		8080	+73	108	+25	74	24	1		
		(8)		(35)	(+1)		1,054	19		
15	12 2	8088	−70	311	+31	71	194	2	P	Mt. Wilson.
		8087	−70	311	+24	71	97	1		
		8086	−66	315	+17	67	242	1		
		8085	−45	336	−20	48	48	1		
		8083	−41	340	+21	45	24	1		
		8083	−39	342	+17	41	121	10		
		8083	−36	345	+15	38	24	1		
		8084	−2	19	−20	21	48	6		
		8072	+67	88	+18	68	48	1		
		8071	+71	92	−26	75	24	7		
		(8)		(21)	(+1)		870	31		
16	9 7	8088	−71	299	+33	75	97	8	G	Do.
		8088	−69	301	+32	70	24	4		
		8088	−65	305	+35	69	194	14		
		8088	−60	310	+33	64	36	6		
		8087	−59	311	+25	60	145	1		
		8088	−57	313	+33	61	36	8		
		8086	−54	316	+18	56	194	1		
		8083	−26	344	+17	31	170	30		
		8084	+7	17	−19	21	12	2		
		8072	+78	88	+19	78	97	4		
		(6)		(10)	(+1)		1,005	78		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR JUNE 1946—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1946	h m		°	°	°	°				
June 17	12 23	8088	−55	300	+33	60	145	12	F	U. S. Naval.
		8088	−50	305	+32	57	121	7		
		8088	−45	310	+30	51	48	3		
		8087	−45	310	+25	50	145	1		
		8086	−39	316	+17	41	218	1		
		8083	−17	338	+15	22	73	9		
		8083	−11	344	+15	17	242	27		
		8084	+23	18	−21	31	61	3		
		8089	+42	37	−25	48	24	2		
		(6)		(355)	(+1)		1,077	65		
18	11 44	8088	−41	301	+33	50	145	10	F	Do.
		8088	−38	304	+32	47	97	7		
		8088	−32	310	+31	42	121	8		
		8087	−32	310	+25	39	73	2		
		8086	−27	315	+17	31	194	1		
		(*)	−3	339	+31	30	24	11		
		8085	−1	341	−21	22	97	8		
		8083	+2	344	+16	15	145	18		
		8084	+35	17	−20	40	48	3		
		8084	+40	22	−19	43	24	3		
		8089	+55	37	−25	60	194	13		
		(8)		(342)	(+1)		1,162	84		
19	8 48	8091	−76	254	−24	78	24	1	F	Mt. Wilson.
		8088	−30	300	+34	42	145	25		
		8087	−22	308	+26	31	73	1		
		8088	−20	310	+33	36	145	21		
		8086	−14	316	+19	22	121	1		
		8083	+15	345	+17	21	97	12		
		8084	+53	23	−18	56	16	2		
		8089	+64	34	−22	67	73	6		
		8089	+70	40	−22	72	194	2		
		(7)		(330)	(+2)		888	71		
20	9 20	8095	−80	237	−21	80	194	4	F	Do.
		8091	−66	251	−23	69	12	1		
		8094	−33	284	−18	37	24	4		
		8088	−17	300	+34	36	194	19		
		8087	−9	308	+26	25	73	1		
		8088	−7	310	+34	33	145	14		
		8090	−7	310	−20	23	16	4		
		8086	−1	316	+19	18	97	1		
		8093	+4	321	+24	23	12	3		
		8092	+12	329	−21	27	73	9		
		8083	+29	346	+17	32	12	4		
		8089	+80	37	−22	80	145	5		
		(11)		(317)	(+2)		997	69		
21	10 32	8097	−70	233	−30	73	12	1	G	U. S. Naval.
		8095	−70	233	−22	72	6	1		
		8095	−65	238	−21	68	12	1		
		8095	−61	242	−21	65	194	1		
		8091	−52	251	−25	57	6	1		
		8094	−22	281	−18	29	12	2		
		8094	−18	285	−17	25	6	2		
		8096	−6	297	+18	17	16	3		
		8088	−4	299	+34	33	291	19		
		8087	+4	307	+25	24	48	1		
		8088	+5	308	+33	32	48	10		
		8086	+12	315	+17	20	121	1		
		8092	+25	328	−22	34	48	9		
		(9)		(303)	(+2)		820	52		
22	10 14	8098	−62	228	−18	64	6	2	G	Do.
		8098	−59	231	−18	61	24	3		
		8095	−55	235	−22	59	97	8		
		8095	−49	241	−20	52	218	4		
		8091	−40	250	−24	47	6	2		
		8088	+5	295	+32	31	12	8		
		8088	+7	297	+33	32	145	11		
		8096	+8	298	+19	19	24	13		
		8087	+16	306	+25	24	12	3		
		8088	+16	306	+32	33	48	5		
		8088	+22	312	+32	36	12	4		
		8086	+25	315	+17	30	145	1		
		(*)	+25	315	−28	38	6	4		
		8092	+37	327	−22	42	24	13		
		8092	+40	330	−22	45	24	4		
		(9)		(290)	(+2)		803	85		
23	11 11	8101	−78	198	−28	78	242	3	G	Do.
		8100	−61	215	−39	69	97	4		
		8098	−46	230	−19	50	121	4		
		8095	−41	235	−22	46	97	2		
		8095	−37	239	−21	43	291	1		
		8091	−27	249	−26	38	6	1		
		8099	−15	261	+27	30	12	1		
		8088	+20	296	+32	36	145	13		
		8096	+21	297	+19	27	97	16		
		8088	+23	299	+29	35	48	7		
		8087	+29	305	+24	36	24	2		

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR JUNE 1946—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic: Difference in longitude	Heliographic: Longitude	Heliographic: Latitude	Heliographic: Distance from center of disk	Area of spot or group	Spot count	Plate quality	Observatory
1946	h m		°	°	°	°				
June 23	11 11	8088	+30	306	+31	40	48	4	G	U. S. Naval.
		8086	+39	315	+16	41	170	4		
		8093	+44	320	+23	49	12	1		
		8092	+53	329	−23	58	121	6		
		(12)		(276)	(+2)		1,531	69		
24	13 10	8101	−65	197	−28	69	194	2	G	Do.
		8100	−47	215	−40	60	242	3		
		8098	−30	232	−19	35	170	14		
		8095	−27	235	−21	34	97	5		
		8095	−21	241	−21	31	206	1		
		8099	−2	260	+29	27	36	1		
		8088	+34	296	+35	46	170	10		
		8096	+35	297	+20	39	48	4		
		8102	+41	303	−15	43	24	2		
		8087	+42	304	+27	47	24	2		
		8086	+53	315	+20	55	121	1		
		8092	+65	327	−21	67	48	2		
		(11)		(262)	(+2)		1,380	47		
25	11 48	8101	−61	188	−29	67	48	3	F	Do.
		8101	−51	198	−28	59	170	3		
		8100	−39	210	−40	53	61	1		
		8100	−33	216	−40	51	61	1		
		8098	−21	228	−18	30	158	14		
		8098	−15	234	−18	25	73	5		
		8095	−15	234	−21	27	24	2		
		8095	−9	240	−21	24	206	1		
		8099	+11	260	+28	29	24	1		
		8088	+47	296	+34	54	145	9		
		8087	+54	303	+27	59	12	1		
		8102	+54	303	−15	57	6	1		
		8086	+65	314	+19	66	121	1		
		(9)		(249)	(+2)		1,109	43		
26	12 15	8101	−47	189	−32	57	97	7	G	Do.
		8101	−41	195	−30	50	145	13		
		8101	−38	198	−26	47	24	3		
		8101	−35	201	−29	46	61	1		
		8100	−25	211	−41	49	97	3		
		8100	−19	217	−39	44	61	1		
		8098	−7	229	−18	22	73	15		
		8098	−2	234	−19	21	97	10		
		8095	−2	234	−21	23	24	6		
		8095	+4	240	−21	24	218	1		
		8088	+60	296	+34	64	145	9		
		8087	+68	304	+26	69	6	1		
		8086	+79	315	+19	79	145	1		
		(7)		(236)	(+2)		1,193	71		
27	10 51	8101	−38	185	−32	49	73	10	F	Do.
		8101	−31	192	−30	43	48	8		
		8101	−28	195	−30	41	97	3		
		8101	−22	201	−29	37	61	1		
		8100	−12	211	−41	43	48	2		
		8104	−12	211	−19	24	12	3		
		8100	−8	215	−39	40	48	2		
		8104	−7	216	−21	23	12	1		
		8103	−2	221	+21	19	24	1		
		8098	+5	228	−18	21	97	10		
		8098	+11	234	−18	23	145	5		
		8095	+15	238	−20	27	218	1		
		8095	+16	239	−21	28	6	2		
		8088	+75	298	+34	77	97	2		
		(7)		(223)	(+2)		986	51		
28	10 59	8105	−80	130	+27	80	97	1	G	Do.
		8101	−24	186	−31	41	24	2		
		8101	−18	192	−30	37	24	1		
		8101	−13	197	−30	35	61	7		
		8101	−10	200	−30	34	48	1		
		8100	−1	209	−41	43	48	2		
		8100	+4	214	−39	41	48	3		
		8104	+8	218	−21	26	12	2		
		8103	+10	220	+21	20	12	1		
		8098	+18	228	−19	28	61	6		
		8098	+23	233	−18	31	73	14		
		8095	+29	239	−21	37	145	3		
		(7)		(210)	(+3)		653	43		
29	11 17	8106	−80	116	+24	80	291	1	F	Do.
		8105	−65	131	+29	68	97	1		
		8101	−7	189	−30	33	12	1		
		8101	−2	194	−29	32	97	8		
		8101	+2	198	−30	33	48	1		
		8100	+11	207	−40	43	6	1		
		8100	+17	213	−39	44	12	1		
		8098	+31	227	−19	37	48	2		
		9098	+39	235	−18	43	73	3		
		8095	+40	236	−21	46	145	5		
		(6)		(196)	(+3)		829	24		

See footnotes at end of table.

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS FOR JUNE 1946—Continued

Date	Eastern standard time	Mount Wilson group No.	Heliographic				Area of spot or group	Spot count	Plate quality	Observatory
			Difference in longitude	Longitude	Latitude	Distance from center of disk				
1946	*h m*		°	°	°	°				
June 30	9 48	8110	−86	98	+18	88	24	1	G	Mt. Wilson.
		8109	−83	101	−16	83	97	1		
		8106	−68	116	+24	70	388	7		
		8105	−52	132	+28	56	73	1		
		8108	−23	161	−13	27	12	2		
		8101	+7	191	−29	32	6	2		
		8101	+9	193	−29	33	6	1		
		8101	+13	197	−29	34	24	11		
		8101	+15	199	−27	35	48	1		
		8107	+15	199	+23	24	6	1		
		8100	+30	214	−39	50	12	3		
		8103	+38	222	+20	40	6	9		
		8103	+41	225	+20	43	36	9		
		8098	+45	229	−19	50	12	3		
		8098	+50	234	−19	54	24	18		
		8098	+53	237	−18	58	12	7		
		8095	+55	239	−22	60	61	9		
		(11)		(184)	(+3)		847	86		

Mean daily area for 30 days=729
Mean 10 g+s for 30 days=112.5

*Not Numbered.
VG=very good; G=good; F=fair; P=poor.
g=number of groups: s=number of spots.

PROVISIONAL RELATIVE SUNSPOT NUMBERS FOR JUNE 1946

[Based on observations at Zurich except as indicated by an asterisk. Data furnished through the courtesy of Prof. W. Brunner, Swiss Federal Observatory, Zurich, Switzerland.]

June 1946	Relative numbers	June 1946	Relative numbers	June 1946	Relative numbers
1	20	11	54	21	105
2	28	12	62	22	
3	31	13		23	111
4	26	14	74	24	112
5	43	15	92	25	99
6	63	16	81	26	101
7	54	17	67	27	94
8	75	18	94	28	94
9	70	19	68	29	75
10	48	20	112	30	89

Mean, 28 days=72.9

Chart I. Departure (°F.) of the Mean Temperature from the Normal, and Wind Roses for Selected Stations, June 1946

Chart I. Departure (°F.) of the Mean Temperature from the Normal, and Wind Roses for Selected Stations, June 1946

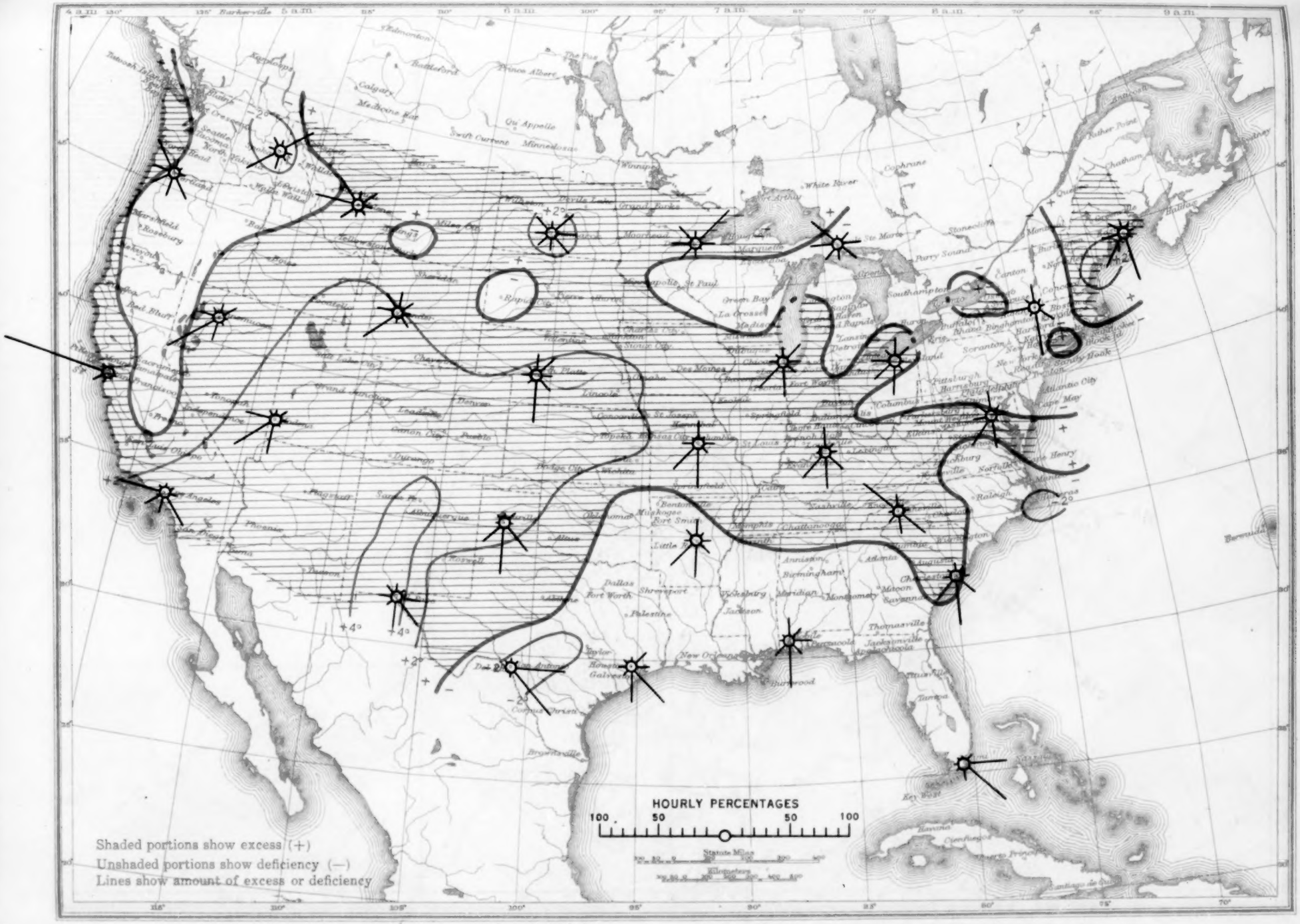
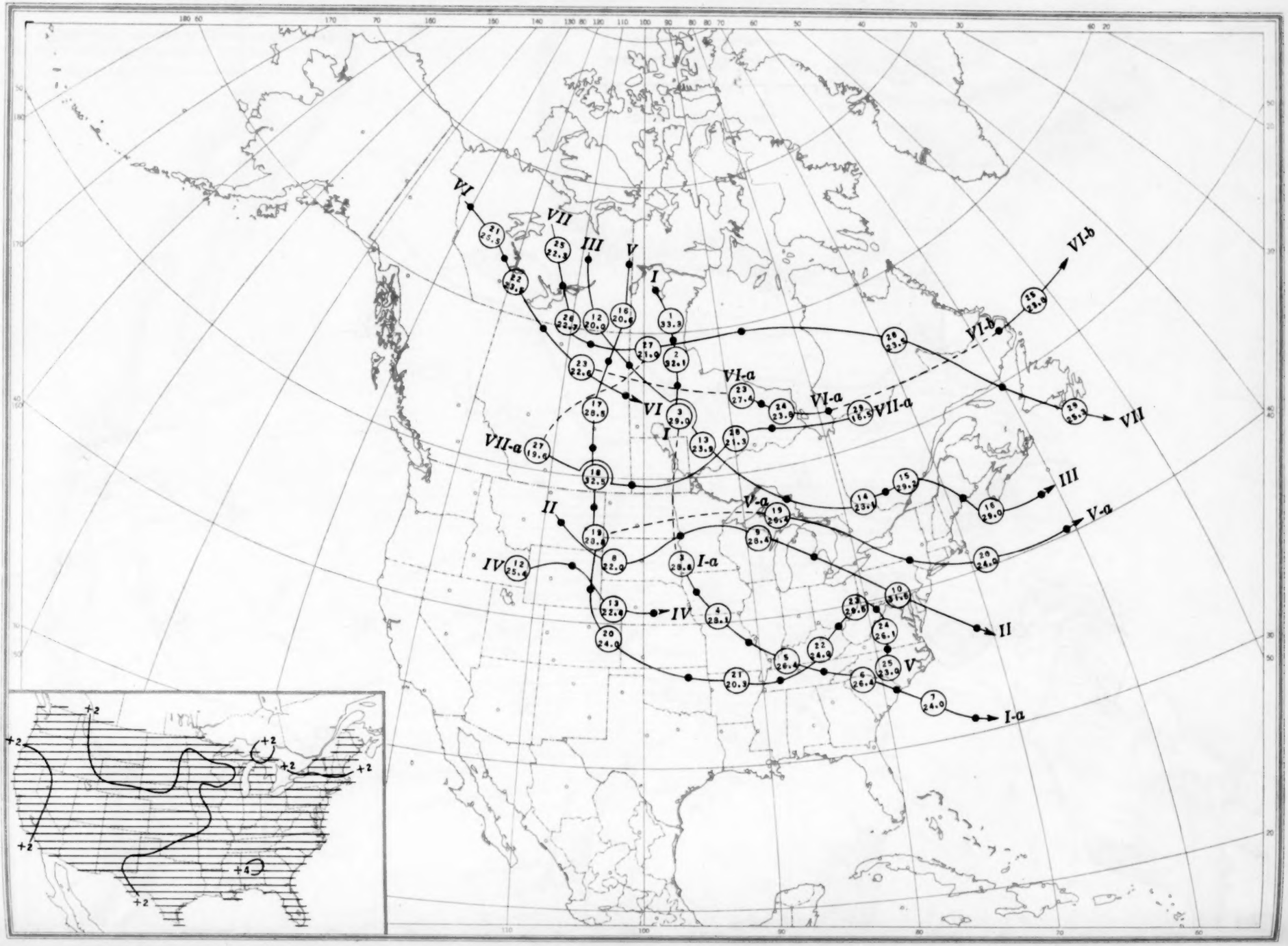


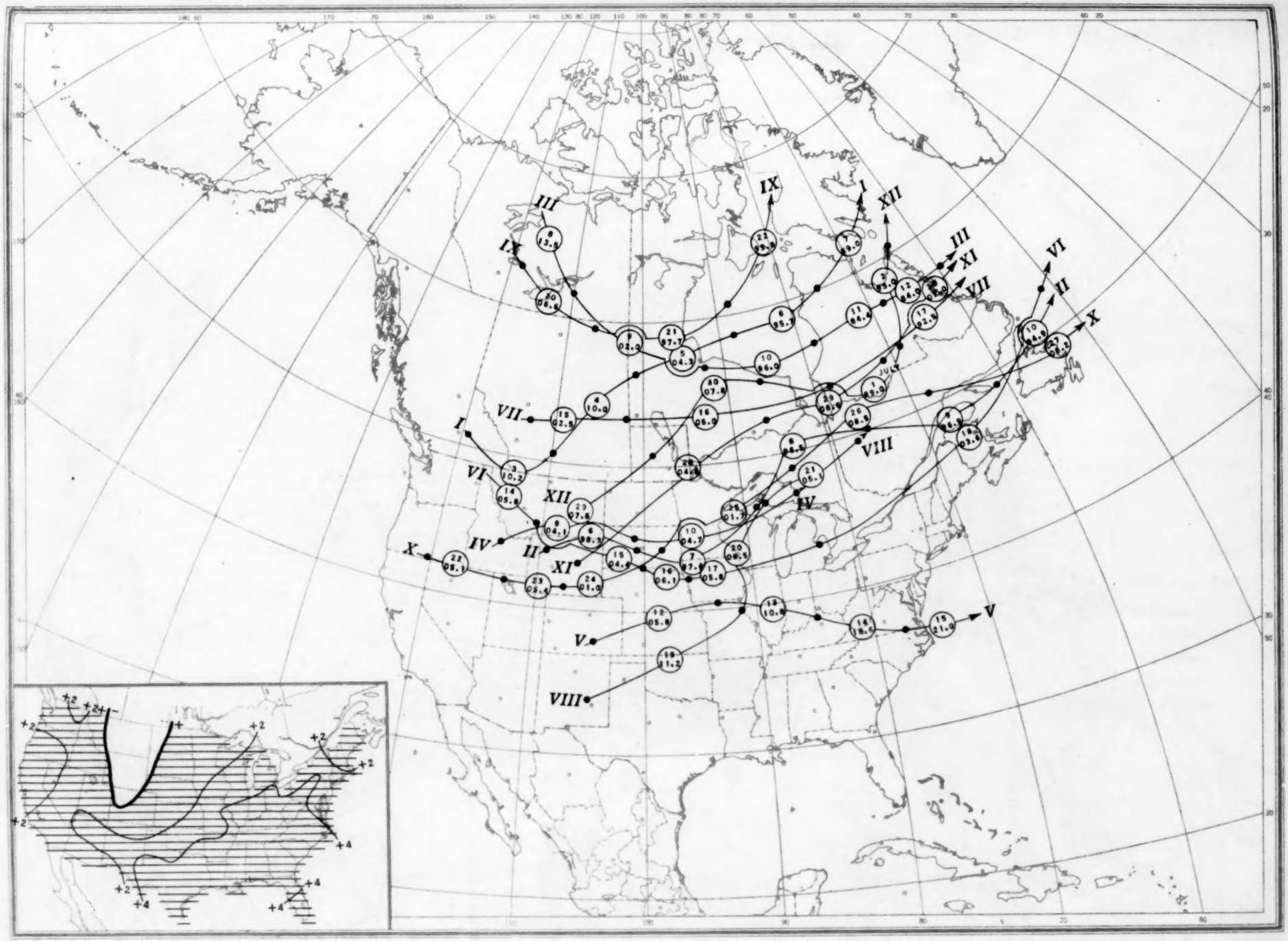
Chart II. Tracks of Centers of Anticyclones, June 1946. (Inset) Departure of Monthly Mean Pressure from Normal



Circle indicates position of anticyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of anticyclone at 7:30 p. m. (75th meridian time)

Circle indicates position of anticyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of anticyclone at 7:30 p. m. (75th meridian time)

Chart III. Tracks of Centers of Cyclones, June 1946. (Inset) Change in Mean Pressure from Preceding Month



Circle indicates position of cyclone at 7:30 a. m. (75th meridian time), with barometric reading. Dot indicates position of cyclone at 7:30 p. m. (75th meridian time)

Chart IV. Percentage of Clear Sky Between Sunrise and Sunset, June 1946

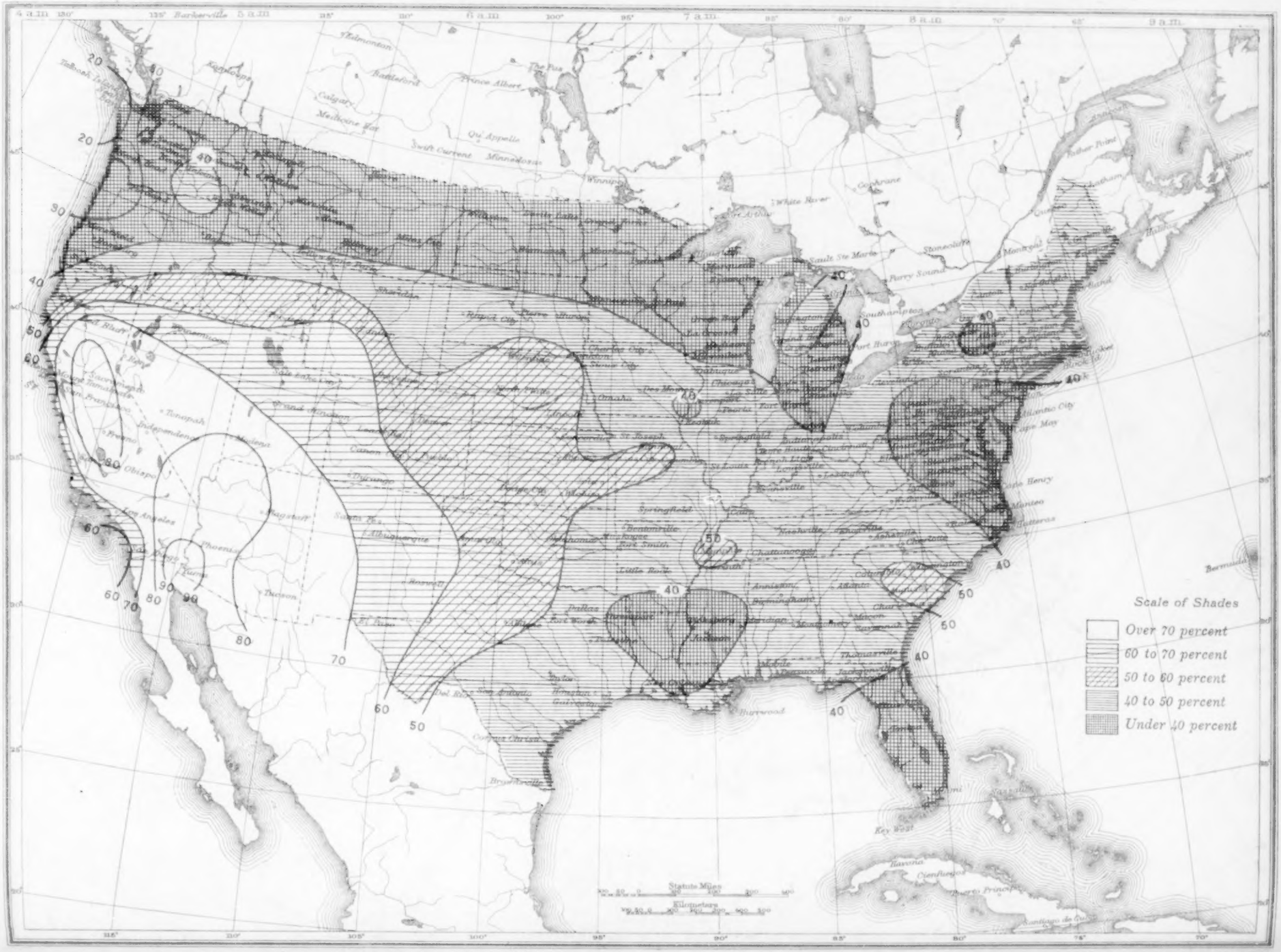


Chart V. Total Precipitation, Inches, June 1946. (Inset) Departure of Precipitation from Normal

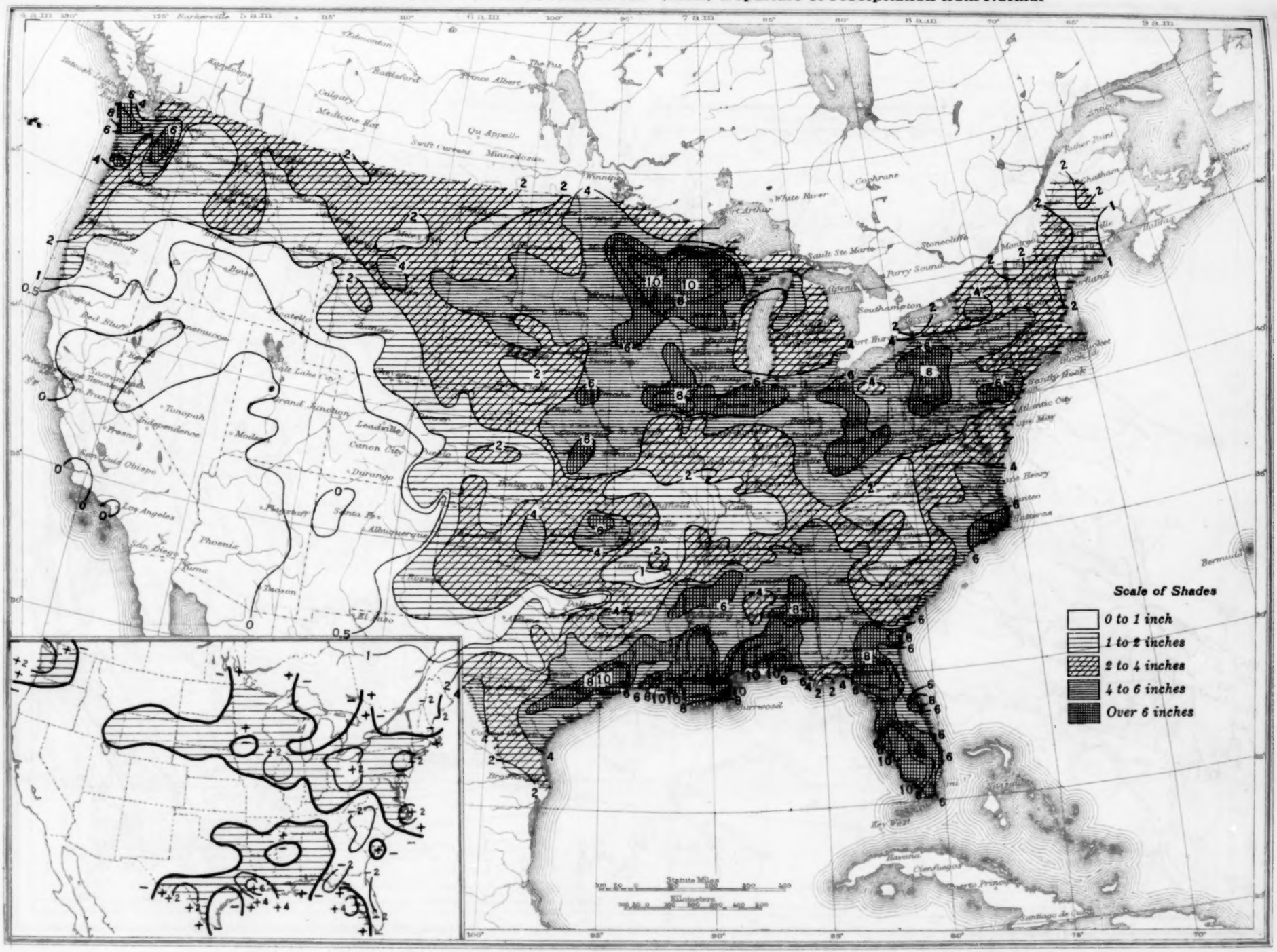


Chart VI. Isobars (mb), at Sea Level and Isotherms (°F.) at Surface; Prevailing Winds, June 1946

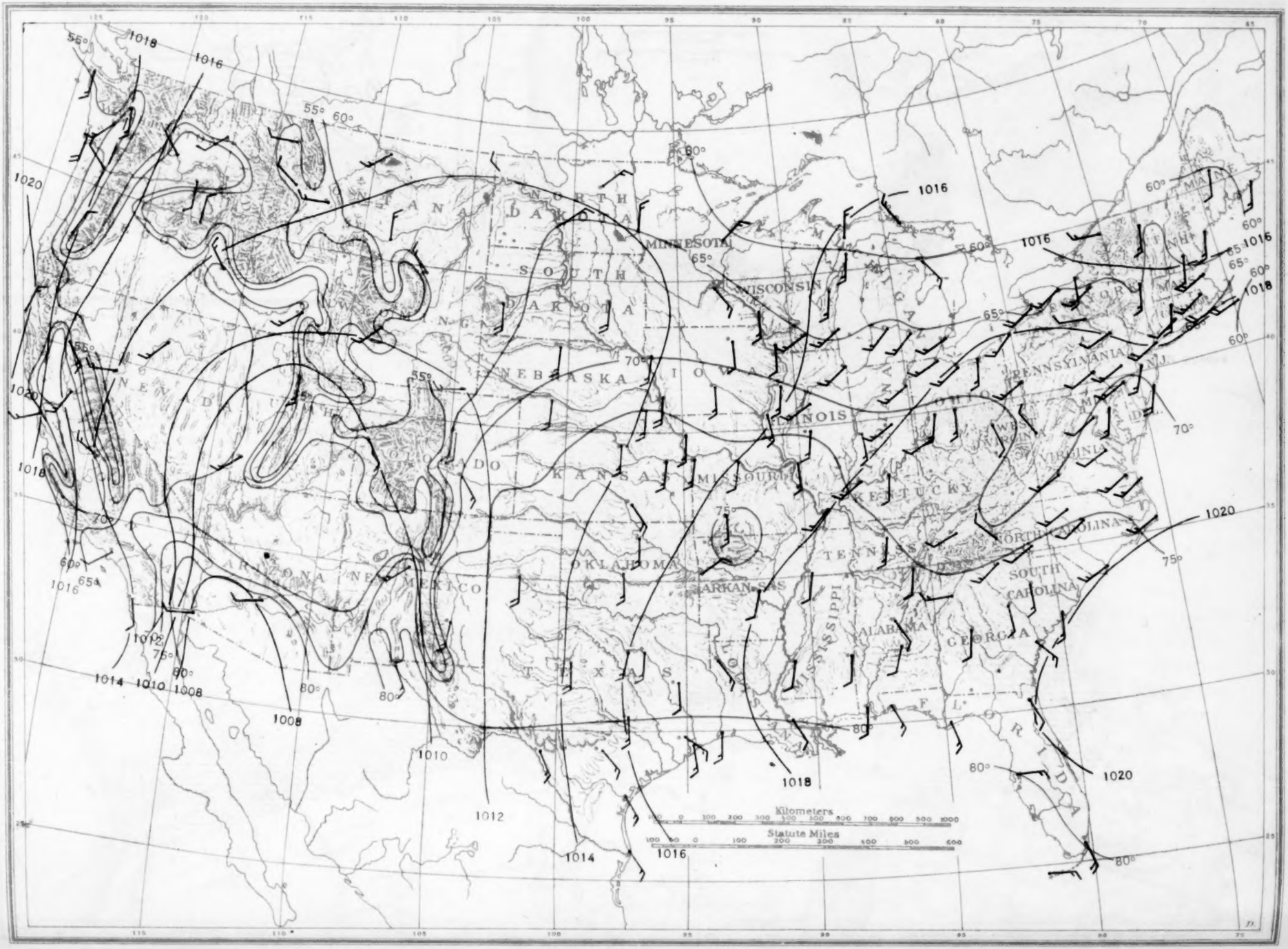
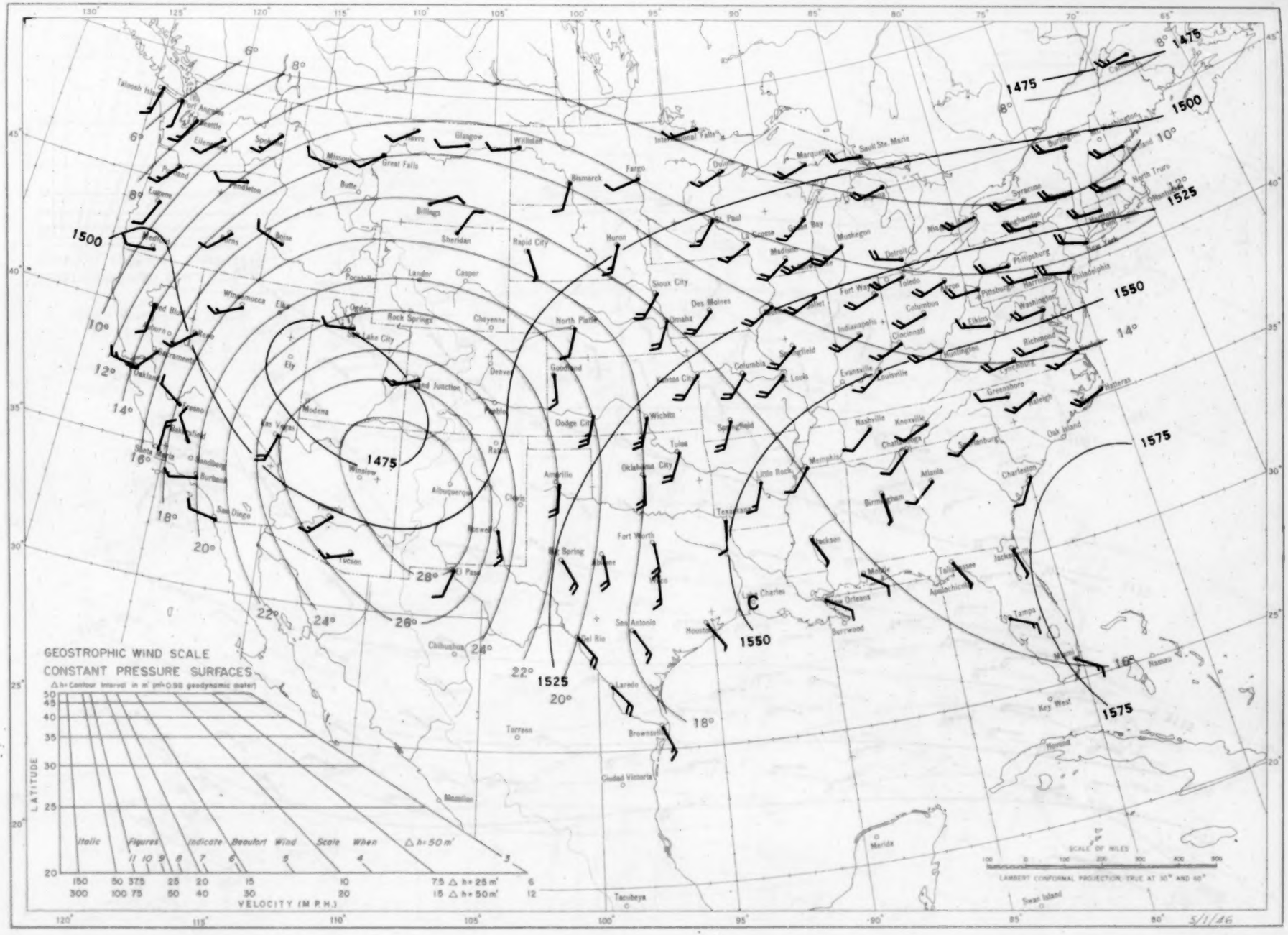
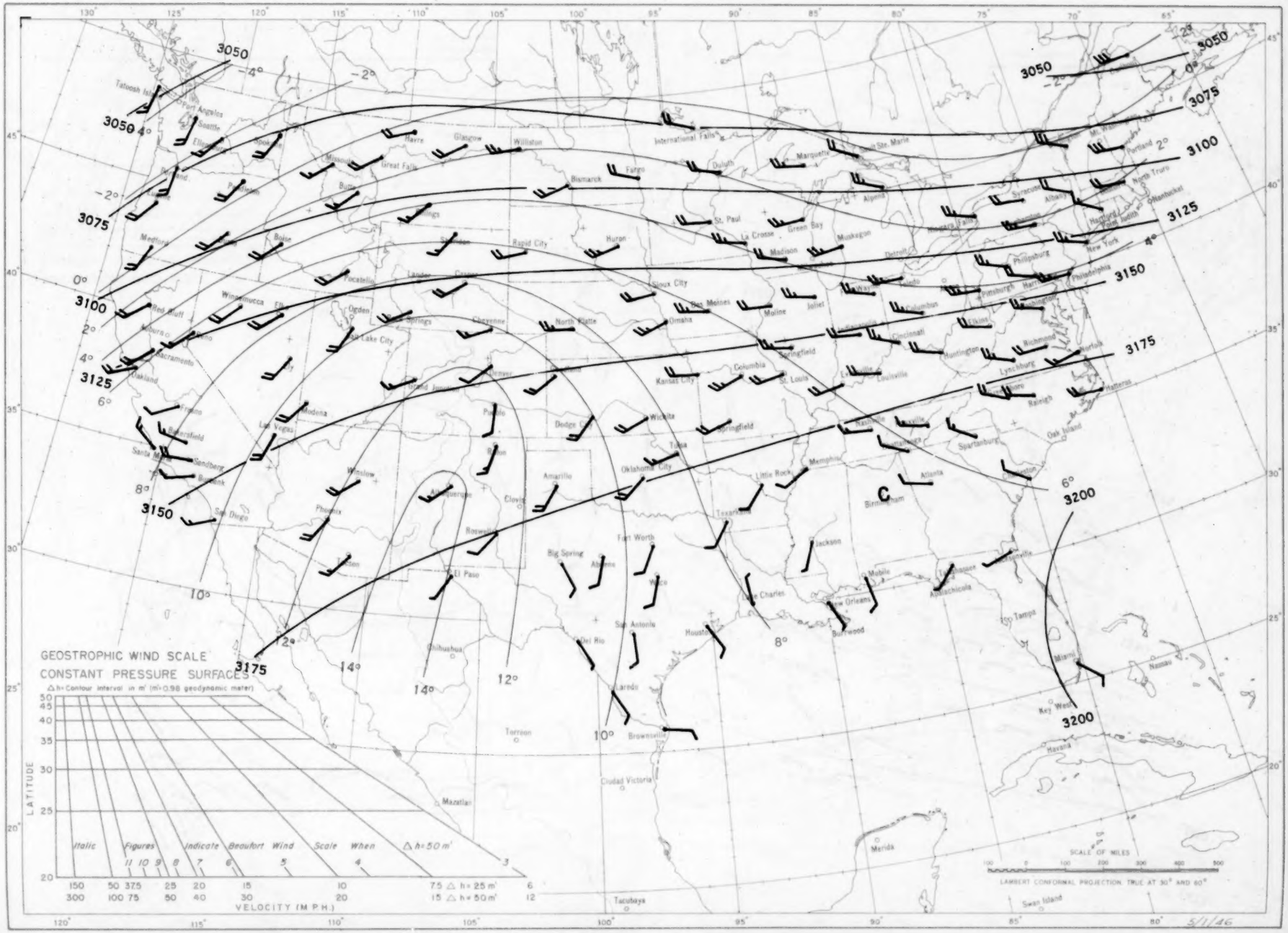


Chart VIII, June 1946. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meter and Isotherms in Degrees Centigrade for the 850-millibar Pressure Surface, and Resultant Winds at 1,500 Meters (m.s.l.)



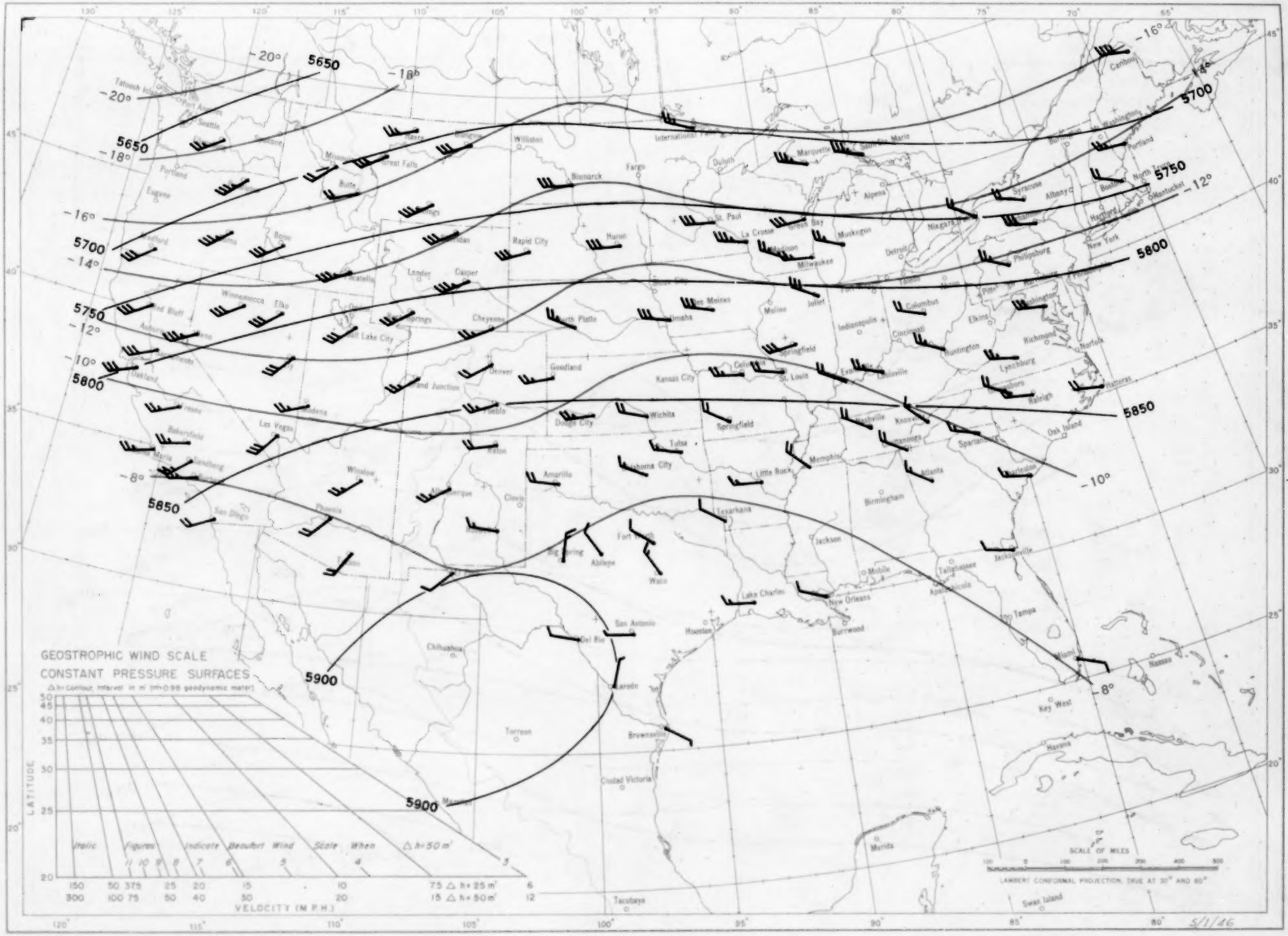
Contour lines and isotherms based on radiosonde observations at 0300 G.C.T. and winds based on pilot balloon observations at 2200 G.C.T.

Chart IX, June 1946. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meter and Isotherms in Degrees Centigrade for the 700–millibar Pressure Surface, and Resultant Winds at 3,000 Meters (m.s.l.)



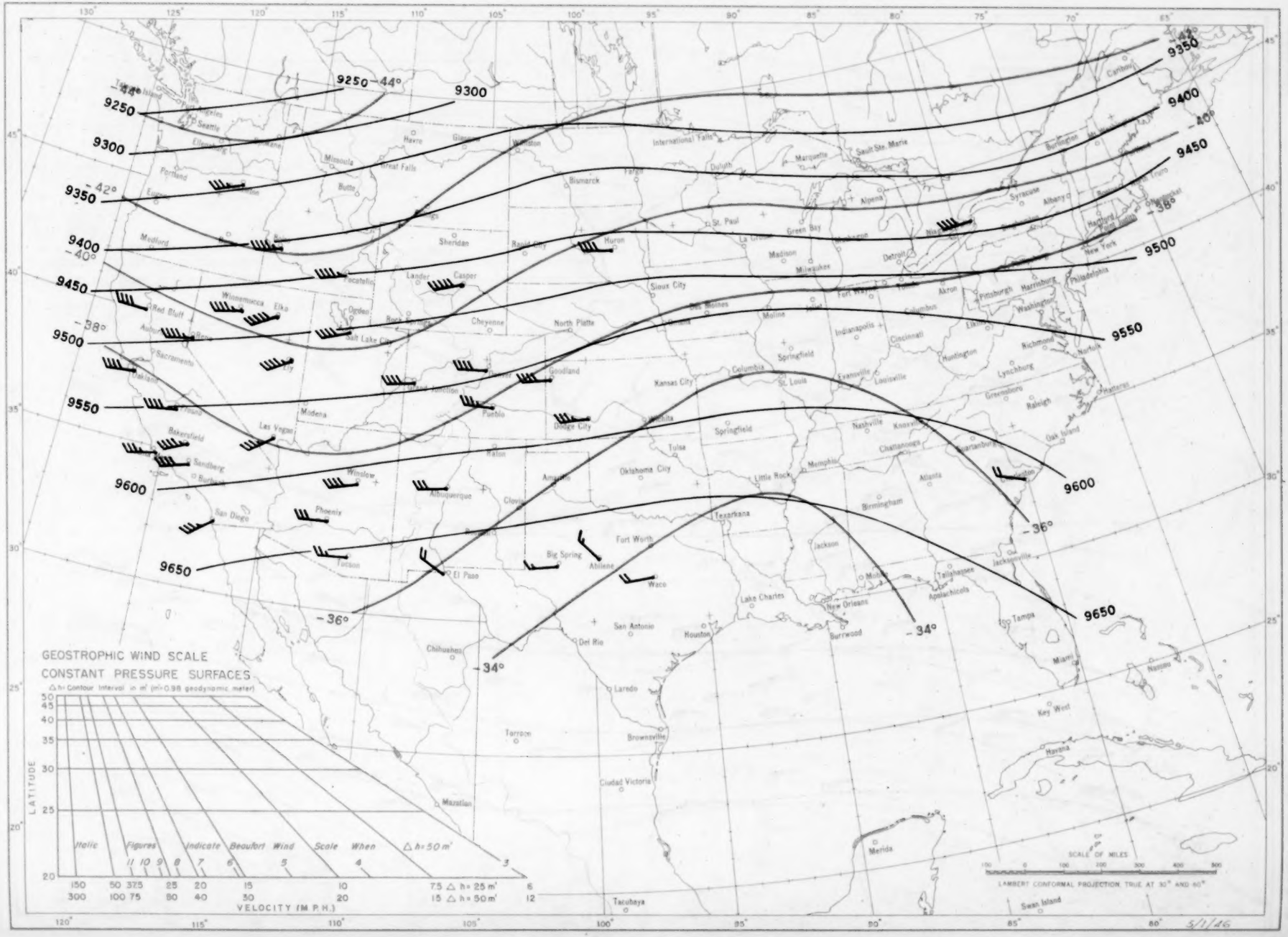
Contour lines and isotherms based on radiosonde observations at 0300 G.C.T. and winds based on pilot balloon observations at 2200 G.C.T.

Chart X, June 1946. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meter and Isotherms in Degrees Centigrade for the 500-millibar Pressure Surface, and Resultant Winds at 5,000 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0300 G.C.T. and winds based on pilot balloon observations at 2200 G.C.T.

Chart XI, June 1946. Contour Lines of Dynamic Height (Geopotential) in Units of 0.98 Dynamic Meter and Isotherms in Degrees Centigrade for the 300–millibar Pressure Surface, and Resultant Winds at 10,000 Meters (m.s.l.)



Contour lines and isotherms based on radiosonde observations at 0300 G.C.T. and winds based on pilot balloon observations at 2200 G.C.T.